

349108

JPRS 68197

10 November 1976

WORLD EPIDEMIOLOGY REVIEW

No. 76

DISTRIBUTION STATEMENT A
Approved for Public Release
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Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

BIBLIOGRAPHIC DATA SHEET	1. Report No. JPRS 68197	2.	3. Recipient's Accession No.
4. Title and Subtitle WORLD EPIDEMIOLOGY REVIEW, No. 76		5. Report Date 10 November 1976	
7. Author(s)		6.	
9. Performing Organization Name and Address Joint Publications Research Service 1000 North Glebe Road Arlington, Virginia 22201		8. Performing Organization Rept. No.	
		10. Project/Task/Work Unit No.	
		11. Contract/Grant No.	
12. Sponsoring Organization Name and Address As above		13. Type of Report & Period Covered	
		14.	
15. Supplementary Notes			
16. Abstracts The report contains worldwide press and radio coverage of incidence, outbreak, and other aspects of human, animal, and plant diseases, insect pests and control, sanitation conditions, immunization and public health programs.			
17. Key Words and Document Analysis. 17a. Descriptors Worldwide Clinical Medicine Environmental Biology Hygiene and Sanitation Microbiology 17b. Identifiers/Open-Ended Terms 17c. COSATI Field/Group 2E, 6E, 6F, 6I, 6M			
18. Availability Statement Unlimited Availability Sold by NTIS Springfield, Virginia 22151		19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 72
		20. Security Class (This Page) UNCLASSIFIED	22. Price \$ 4.50

WORLD EPIDEMIOLOGY REVIEW

No. 76

This serial publication, based on worldwide press and radio reports, contains information on the epidemiology of human, animal, and plant diseases. Disease incidence, reported outbreaks, and various related epidemiological factors are included. Items are presented by country of occurrence rather than by country of original press report.

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I. HUMAN DISEASES

BELGIUM

LIVE VACCINE AGAINST A/VICTORIA/75 INFLUENZA STRAIN DEVELOPED

Brussels POURQUOI PAS? in French 16 Sep 76 pp 32-35

[Article by Pierre Thonon]

[Text] The absolute weapon against the annual influenza epidemics may just have been discovered. In Belgium! The researchers at the RIT laboratories, in Rixensart, who already are the "inventors" of the first live vaccine against German measles, have just developed a live vaccine against influenza whose antigen composition is, for the first time in the world, exactly the same as that of the wild virus against which action is being sought.

The virus in question is the A/Victoria/75 influenza strain.

Contrary to what may have been feared several months ago, there is in fact no longer a "swine flu" epidemic in sight for the coming winter.

There is every indication that the worldwide alarm sounded last spring by the United States was only a false alarm. It resulted from an actual resurgence of the famous "Spanish flu" virus that in 1918-1919 caused more deaths than did the entire war itself and then took refuge in the swine population alone--whence its present name. But it was a resurgence that fortunately turned out to be limited in time and space to the interior of the military base at Fort Dix, New Jersey.

Since then, despite the exceptional detection measures employed throughout the world by WHO, not a single additional case of swine flu has been recorded anywhere in the world. On the other hand, all the influenza epidemics that have cropped up these past few months in the Southern Hemisphere--where the winter is ending, and from where "our" viruses come with

each return of the autumn-winter season--have been caused by the A/Victoria/75 virus, so named because it first appeared in that form last year in the State of Victoria, Australia.

Everything therefore points to this form of the influenza being the one we have to be ready to face in our country next winter.

Genetic Manipulation

The ideal vaccine to take preventive action against a viral infection like that of influenza would be a live vaccine reproducing in an attenuated form the antigen composition of the virus in circulation.

That is an objective which is all the more hypothetical because, unlike the other viruses, influenza is particularly unforeseeable. "Genetically unstable" is what the scientists say in explaining that the influenza virus, the "viral genome of influenza," is comprised of eight fragments that can be interchanged spontaneously and in an unpredictable way "through genetic rematching." Which explains the multiple variants of influenza epidemics that have succeeded one another across the years.

In 1974 the Rixensart researchers succeeded for the first time with the genetic manipulation that permitted them to "induce" an exchange of genetic matter artificially by "marrying" two flu viruses. Thus they succeeded in "recombining," in a new strain, certain characteristics of the attenuated parent strain with the antigenetic characteristics of the new virulent virus to be combated.

"Such marriages yield many unforeseeable children," explains Dr Zygraich, director of virologic research at Rixensart. "The problem we had was that of selecting the good ones--which until now could only be done through experiments on human volunteers. The disadvantages of this approach through groping efforts is readily apparent, not the least of which is the long interval that necessarily transpires between the production of a 'recombined' strain and the subsequent preparation of the vaccine.

"This year, fortunately, my coworkers have finally succeeded in perfecting a scientific method of selecting the 'good children' that we were searching for in vain for 5 years: a technique of 'biochemical markers' that permits us to recognize only the good 'recombined' strains by biochemical analysis in vitro."

This discovery probably goes far beyond the influenza vaccine field alone. "It is a fundamental acquisition for the future of live vaccines," says Dr Zygraich. All types of vaccines: poliomyelitis, tetanus, measles, diphtheria, whooping cough, etc. Being live, the vaccines no longer have to be injected, which eliminates most of the troublesome or undesirable local reactions.

A great world first in the field of prevention of epidemics, the technique of biochemical marking has entailed the establishment of a series of technological innovations that should make the Rixensart plants one of the foremost vaccine production centers in the world. The crown jewel of this series of "world firsts" is the freeze-dryer that permits preservation of the vaccines after a dessication operation at very low temperature (-80°).

Designed entirely for the use that is being made of it here, the giant RIT freeze-dryer could only be built in the United States, from where it was brought by boat to Antwerp, and from there to Rixensart by an "exceptional road convoy." Unique as to type, it is also absolutely the largest pharmaceutical freeze-drying apparatus in the world.

25,000 Doses Per Hour

"Putting our vaccine into production required an investment of around 100 million francs," Dr Van Caenegem, director of industrial operations at RIT, indicated.

It is an investment that should be beneficial to everyone. Above all for the community: it is 12 times less costly to take preventive action against influenza by vaccination than to endure medications and losses of working days once influenza has set in. As for RIT itself, a Belgian subsidiary of the multinational American firm of Smith, Kline & French Laboratories, Ltd, its productive capacity is thus going from 10,000 to 25,000 doses per hour.

That is sufficient to give quick assurance of the exportation of the new Belgian vaccine throughout the world. And that includes the very mistrustful United States: despite their legendary reluctance to import food or pharmaceutical products, the American authorities have already approved the importing of two of the previous discoveries of the Belgian researchers in Rixensart: the German measles vaccine and, 3 weeks ago, the IBR vaccine that prevents infectious rhinotracheitis in bovines. And already the FDA (Food and Drug Administration) experts have come to inspect the laboratories at Rixensart where the new influenza vaccine was "invented" and the sterile installations specially built to produce it on an industrial scale.

Eggs at 25 Francs Apiece

Like the American "swine flu" vaccine, the new vaccine developed at Rixensart is prepared by using embryos from fertilized hen's eggs.

But these are not just any eggs. They are eggs at 25 francs apiece, five times the price of a normal egg. That is because they must come from SPF (Specific Pathogenes Free) henhouses, that is, henhouses equipped to breed, ventilate and feed the poultry in a strictly sterile environment, free of any pathogenic contamination. A breeding station of this SPF type was

installed at Rixensart for a colony of white rabbits: the live German measles vaccine is extracted from the kidneys of these fine animals. As for poultry, only Great Britain and Germany now have SPF henhouses.

The animals that are bred in an SPF environment are rigorously prevented from any contacts with the outside. Even to clean the litters, the farm maintenance personnel must go through a sterilization chamber and put on an attire--overalls, hood, mask--that is as impressive as that of a surgical team performing open-heart surgery.

That is not so good for the roosters: 50 to 100 times more live vaccine than inactivated vaccine is extracted from a single fertilized egg.

"That may not delight the young roosters so much, because they are moving on to the stewpan in even greater numbers," Dr Zygraich notes philosophically. "But the day when there is a great increase in the demand for vaccine, that will delight the vaccinated people."

BRAZIL

ESPIRITO SANTO TUBERCULOSIS STATISTICS

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 19 Aug 76 p 23

[Text] Vitoria--The coordinator of the Tuberculosis Program of the Secretary of Health of Espirito Santo, Carlos Salla, revealed yesterday that nearly 40 percent of the population of the state, approximately 640,000 people, are carriers of Koch's bacillus. With nearly 8,000 sick, the state maintains an annual risk of infection on the order of 1.2 percent to 1.5 percent, which means that every 20 minutes, a new infected person appears.

The appearance of new cases of tuberculosis in Espirito Santo amounts to 90 per 100,000 inhabitants. In the last year, the number of deaths from pulmonary tuberculosis was 51, which corresponds to one death a week. In the city, close to 30 percent of the sick abandoned treatment, according to the secretary of health. In the interior, the number rises to 35 percent.

The surveys of the secretary of health, concerning the last year, indicate that 41,677 children between 1 day and 14 years of age were vaccinated. This year, also according to the secretary, these numbers ought to be higher, rising to the mark of 50,000. The number of those vaccinated has already reached 70 percent in this age group.

The specialists in Espirito Santo are convinced that simple methods are important in the prevention and treatment of tuberculosis. For this reason, the network of services capable of diagnosing and treating new cases will be enlarged.

EPIDEMIOLOGICAL CHARACTER OF TUBERCULOSIS

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 21 Jul 76 p 15

[Text] WHO considers that tuberculosis is under control when the index of infected children of school age does not exceed 2 percent. In Brazil, however, the percentage of infected school age children, according to the National Division of Tuberculosis, is 16.9 percent in the North, 14.2 percent in the Northeast, 7.9 percent in the Central West, 8.3 percent in the Southeast, and 7.9 percent in the South.

Yesterday in Joao Pessoa, in the 31st Nestle Course on Modernization in Pediatrics, Dr Wilberto Guedes Pereira, pediatric phthisiologist of the Brazilian Relief Legion, affirmed that these indices describe a flagrant epidemiological character of tuberculosis in Brazil, which has pediatricians worried. According to him, of the 290,000 new sick registered in the dispensaries, between 1967 and 1973, close to 20 percent were children up to age 15 (between 0 and 4 years, the proportion was 9 percent).

LEPTOSPIROSIS ON THE INCREASE IN SAO PAULO

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 21 Jul 76 p 15

[Text] In the first 4 months of this year alone, the Emilio Ribas Hospital cared for 137 cases of leptospirosis, a number much higher than that registered during the entire year of 1975, when 80 such patients were admitted in that hospital. The increase in incidence of leptospirosis led the Center for Control of Zoonoses of the city government to develop a research project to verify how many dogs are infected by the bacteria which transmit the disease.

The director of the Center for Control of Zoonoses, Jacques Iampolsky, explained that if the research indicates an elevated incidence of leptospirosis in the canine population, it will be necessary to adopt a series of measures to avoid human contamination. For the time being, the center has not yet determined the percentage of dogs that are infected.

However, the dog is not the only animal which transmits the disease, which attacks the liver with symptoms similar to those of hepatitis. The rat is another important source of transmission, and therefore, specimens caught or killed by the rat extermination teams are also being analyzed.

Another current concern of the center is to set up an efficient program to combat rats, which are responsible for no less than 80 diseases that afflict man. The necessity for a rational battle was determined by specialists who recently participated in Sao Paulo in a seminar on the rodent problem. And it is becoming more urgent because of bubonic plague, one of the diseases transmitted by the rat, which could reach the Center South from the intense migration.

In the meantime, Jacques Iampolsky says that the center can only plan an effective program of rodent control in the interest of knowing its incidence in the municipio of Sao Paulo and which areas are greatest affected. "All the estimates published are not scientific. It is said that the city has 6 to 8 rats per inhabitant, but this could not reflect reality."

Just to establish the priority areas of performance is the reason why the Center for Control of Zoonoses will develop research, beginning in October, to make a concrete evaluation of the rat population in the municipio. Jose dos Santos Machado Filho, chief of the rural section of the center, explained that traps to catch the rodents will be located between the sleepers of the railways, and along the edges of rivers, in the slums with more than 11 buildings (there are more than 300 of them), in the sewage ditches of the districts not served by the public network, and in unused land.

Only after the research is complete, which will likely take 6 months, will the center develop the program of rodent control.

CAMPAIGN AGAINST MENINGITIS IN RIO

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 19 Aug 76 p 24

[Text] Rio de Janeiro--All the population in the age group 6 months to 6 years, estimated at approximately 1.1 million persons, residing in the 14 municipios of the metropolitan region of Greater Rio, will be vaccinated against meningitis between 1-15 September, in the second immunization campaign done in the State of Rio in less than 2 years. In the first, all of the population of the state were vaccinated.

The state secretary will have 1,500 doses of mixed A/C vaccine for the campaign, given by the Ministry of Health, which it had bought from the Merieux Institute of France. According to the secretary, Woodrow Pimentel Pantoja, the Oswaldo Cruz Foundation, which has received and already set up a pilot plant from the Merieux Institute, is not yet in a position to supply vaccines on a large scale. At present, according to what was learned in the foundation, the pilot factory can only manufacture 300,000 doses monthly at the most, and since it was inaugurated only 64 days ago, it does not yet have a stock for a campaign such as will be mounted in the State of Rio.

According to the secretary, the incidence of meningitis in the state has decreased, but is still at levels higher than those verified prior to the epidemic outbreak of 1974. From January to July of this year, 193 cases of meningococcal meningitis and 1,170 of all other forms have been reported, as opposed to 467 and 1,621 respectively for the same period last year. The secretary did not announce the number of deaths, the index of which was already very high in relation to the number of sick. In the municipio of Rio de Janeiro, for example, at the peak of the outbreak of 1974, this index reached a peak of 24.6 percent.

The division of duties of the state and municipio secretaries of health caused somewhat of a problem for the organizers of the vaccination campaign, even though the state secretary denies it. Until now, only the days specified for vaccination in the municipios of the metropolitan region which belonged to the old State of Rio, the activities of which are being coordinated by the state secretary in the city of Rio de Janeiro, have been determined. For the time being, it is also only known that the campaign will be conducted between 1-15 of next month, and that five districts of Rio will receive vaccines together with the municipios of former Rio de Janeiro, which they adjoin.

Secretary Woodrow Pimentel Pantoja admitted that the state secretary had to assume control of the operations in the remaining 13 municipios of the metropolitan region because they do not have a municipal health setup for implementing a project such as this. Pantoja said also, that the secretary is helping the municipios to set up their own health structures.

The secretary decided to vaccinate just the population between 6 months and 6 years of age in the metropolitan region because, "it is the age group most susceptible to the disease, and on the basis of the statistics which show the 14 municipios, where 80 percent of the inhabitants of the state live, as responsible for 92.2 percent of the cases of meningococcal meningitis from the total area of Rio de Janeiro."

Rio de Janeiro O GLOBO in Portuguese 29 Sep 76 p 10

[Text] From 1 to 25 September, 685,700 children from 6 months to 6 years of age were vaccinated against meningococcal meningitis in Rio, said Dr Eloadir Pereira da Rocha, director of the General Department of Public Health of the Municipal Board of Health.

The director of the Department of Public Health considered this total, more than 80 percent of the population in the age group to be vaccinated, "an excellent response to appeals made to the population by the Public Health in Rio."

Following are the results of the vaccination campaign in the administrative districts of Rio: Ramos, 42,500; Penha, 44,000; Bangu, 53,800; Campo

Grande, 28,700; Santa Cruz, 17,300; Anchieta, 33,000; Zona Portuaria, 10,700; Sao Cristovao, 29,900; Meier, 50,400; Engenho Novo, 42,500; Irajá, 40,800; Madureira, 39,000. Others: Centro, 7,400; Rio Comprido, 17,800; Tijuca, 33,800; Vila Isabel, 23,900; Jacarepagua, 36,400; Ilha do Governador, 15,900; Botafogo, 42,900; Copacabana, 32,600; Lagoa, 32,000; Ilha de Paqueta, 700; and Santa Teresa, 9,000.

INFLUENZA, MEASLES, GOITER REPORTED IN OROS

Rio de Janeiro O GLOBO in Portuguese 19 Sep 76 p 11

[Text] Heading the list in the municipio of Oros, where the Oros dam, the country's largest reservoir is situated, are several cases of influenza, measles and goiter [papeira (bocio)], which have been reported. The Special Emergency Unit for Public Calamities [GESCAP], petitioned the State Ministry of Health to send special vaccines and medications for the treatment of the sick workers. Should the situation become worse, emergency clinics will be set up to handle the outbreak, with the engagement of doctors to lend their services foreseen.

In Piquet Carneiro, Mayor Luiz Aires said that the people's great difficulty is the water supply and appealed to GESCAP for water tank services to take care of the most precarious situations in the districts and the town seat itself. The lack of water has also reached the town of Quixada, according to Mayor Aziz Baquit, who requested the governor to have the various wells opened as an immediate solution.

The bishops of the 10 dioceses which make up the ecclesiastical province of Ceara, continue to study the adoption of short-term preventive measures to meet a possible general drought in the northeast. Although not confirmed by the Fortaleza metropolitan curia, it is known that the bishops inclusively admit the coming circulation of a pastoral letter on droughts, such as that issued in 1942 by His Excellency Antonio de Almeida Lustosa, metropolitan archbishop of Fortaleza, in which he strongly appealed to Catholics to help the inland rural communities hit by the scourge.

TUBERCULOSIS, TYPHOID AND MENINGITIS AFFECT IRECE

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 21 Aug 76 p 19

[Article by Cesio de Oliveira, special correspondent]

[Text] Authorities, doctors, and those in charge of the welfare of the population struck by the drought in Bahia already pinpointed various sources of tuberculosis and typhoid in several points of 11 municipios which make up the micro-region of Irece (the largest grain-producing center in the Northeast), and they fear that the diseases will turn into

epidemics of great proportions, which will undoubtedly lead to the total collapse of the only hospital in the whole area, equipped with only 28 beds, but responsible for serving a population of 250,000 persons.

The doctor of the municipio of Jussara, Djalma Paiva Bernardes, explained that besides the cases of tuberculosis and typhoid which are being registered in geometric progression, cases of meningitis are also becoming common. He said further that even though the secretary of health had already been notified of the outbreak, by the regional director of FUSEB (Health Foundation for the State of Bahia), Aristides Martins Neto, the vaccines which had been requested had not yet arrived. He explained that not even the simple laboratory examinations such as a "Widal reaction" or a hemogram, can be done in the medical posts scattered throughout the region, because only the hospital at Irece has the conditions to conduct the examinations.

The doctors generally condemn the policy adopted by the secretary of health which scattered treatment posts in the municipios, "perhaps with political objectives," when they should, at least in the opinion of Paiva Bernardes, be concentrating resources in the reconstruction, enlarging, and equipping of the hospital at Irece. In Jussara the medical post does not even provide nursing aid, because all its staff abandoned the region, fleeing the drought and headed for Sao Paulo.

Further, according to Paiva Bernardes, in spite of the effort that the doctors are making to confront the calamitous situation, care continues to be uncertain, because the people of the rural zone do not have even the minimum conditions to move to Irece, where they could be given the laboratory tests. In the face of this, quotes the doctor, "it is impossible to surmise the number of cases that they have already seen in the critical phase, and the clinical picture of the entire micro-region which exists as a result of hunger, drinking of contaminated water, and complete absence of minimum conditions of hygiene is frightening."

"Our situation is most serious," continued the doctor from Jussara, "because our only hospital does not have an isolation unit, laundry, medicines, or money. All that we collect does not come to 70,000 cruzeiros a month, and if urgent measures are not taken, there will be no other solution than an official recognition of public calamity. Even yesterday, in order to admit a tubercular child, I had to discharge a patient who had been knifed, and who should have stayed in the hospital for 15 days longer, at the minimum. We are appalled and to a certain point revolted with this state of things, principally because we know that in Jussara for example, there is a well of potable water dug and installed, depending only on the hookup to the electrical system, while the already malnourished population continues to drink contaminated water. We cannot perform miracles. What we do is let them die."

Two days before, Paiva Bernardes had visited the settlement of Larga do Cruzeiro, about 10 kilometers from the center of Jussara, where 50 cases

of hypovitaminosis were verified, and learned of many stories of children who died from hunger and thirst.

"What can we do?" asked the doctor. "Giving a kilo of sugar or 2 kilos of beans does not resolve problems of endemic hunger, and in these cases, the doctor is obliged to report the fact to the secretary of health and keep fighting so that when the help arrives, the infant population of the settlement has not become extinct."

In Irece, in the hospital where the daily movement never permits its six accredited doctors to do less than 70 treatments apiece each day, Dr Manoel Nobre endorsed the statements of his colleague in Jussara and added, "Of the fixed apportionment, we only have 60,000 cruzeiros from Funrural [expansion unknown] and 3,000 cruzeiros from the municipal government. We continue to collect an average of 7,000 cruzeiros a month from private visits."

"The secretary of health," added Manoel Nobre, "which maintains a medical post in the city, does not collaborate at all with the hospitals, and because of the state of affairs which are not suitable to take to the people, we are still obliged to give outpatient services. Our salaries (a little more than 2,000 cruzeiros) are 4 months behind, and we work three shifts with a shortage of personnel, besides a very bad instrument sterilization service."

The hospital began to be enlarged, according to Manoel Nobre, almost a year ago, but the work is at a standstill because of a lack of resources. There is an agreement signed between the hospital and the state government, by which FUSEB [expansion unknown] will earmark 50,000 cruzeiros a year for equipment and maintenance of the installation. This agreement, in the meantime, is not completed, because the portion for the year 1976 has not yet been freed.

The mayor of Irece, ARENA [National Renewal Alliance] party member Ineni Dourado, confirmed without reservations the disastrous situation of the people of his municipio, saying that in other municipios of the micro-region the picture is even more serious. The municipio of Presidente Dutra for example, fears an outbreak of meningitis, while the municipio of Central is already facing an outbreak of influenza that could turn into tuberculosis, given the state of malnutrition in which the population finds itself. Ineni also said "if we were to make a survey of the cases of tuberculosis in the area, we would see that the numbers had multiplied by 10, in relation to the same period last year. The people make a line in the door of City Hall now, to ask for medicines, and not for food as was happening a few months ago."

ANTI-MENINGITIS MEASURES SEEN SUFFICIENT IN BAHIA

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 11 Sep 76 p 20

[Text] Salvador--By 31 August, the Health Secretariat of Bahia had registered 421 cases of meningitis in the state, with 61 deaths. Nevertheless, epidemiology coordination technicians do not feel another vaccination is necessary, even though the immunizations of last year's campaign are already theoretically ineffective, because the period of immunity is estimated at only 6 months.

Dr Ari Sa Menezes, the secretariat's epidemiology coordination adviser, said any campaign of vaccination against meningitis will have to be determined by the Ministry of Health. He added: "For our part, every month we send the figures showing the incidence of the disease in the state, but the decision as to a new anti-meningitis vaccination campaign is entirely up to the ministry." Sa Menezes said he did not see the need for such a campaign yet, "because the measures taken to control the disease--treatment, protection from possible transmitters and epidemiological supervision--have been enough to prevent its increase in the state."

"Last year's vaccination is estimated to be effective for only 6 months, but this does not mean it is of no use," Menezes commented. "Its effectiveness has been proved, because in 1974 we registered 1,117 cases in the state, with 186 deaths, as against 1,923 cases and 310 deaths last year. The drop in the figures for this year demonstrates a reversal in the development of the disease."

MENINGITIS THREATENS INDIANS IN MATO GROSSO

Rio de Janeiro O GLOBO in Portuguese 6 Oct 76 p 8

[Text] Goiania--The Health Organization of the State of Goias [OSEGO] yesterday made known that it is adopting measures to control the spread of meningitis among the Xavante Indians in Barra do Garca, Mato Grosso, where the disease broke out last week, probably transmitted by white men.

Up to the present there have been no reports of death caused by meningitis among the Indians, but health authorities fear that the disease may spread among the Xavantes as the aborigines' level of immunity is known to be low.

Funai

The 7th Funai Regional Headquarters yesterday affirmed that the sanitary conditions among the 290 Xavantes in Barra do Garca were good.

"I can assure you that there is no epidemic or outbreak of meningitis among the Xavantes," said Ivan Balocchi, regional delegate, whose patient is now in convalescence.

The village of Areioes was also visited by the OSEGO team, who brought back to this capital five Indians--four children and one adult--suspected of having meningitis. No positive case of meningitis was found through tests among the Indians in Areioes and the five are now lodged at the Casa do Indio in Funai.

POLIOMYELITIS IMMUNIZATION CAMPAIGN

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 1 Sep 76 p 17

[Text] Tomorrow the Secretariat of Health will promote another mass-vaccination campaign against poliomyelitis. The campaign will cover children from 2 months to 3 years of age who reside in the capital. All children in this age group, not only those who have not yet been vaccinated against the disease, but even those who have already received one or more doses of the Sabin vaccine, should be taken to one of the 495 vaccination stations which will be installed, just for tomorrow, in all the neighborhoods of the capital. The campaign will be repeated on 9 September in the other municipios of the state of Sao Paulo.

SCHISTOSOMIASIS CONTROL PROGRAM EFFECTED IN PERNAMBUCO

Rio de Janeiro O GLOBO in Portuguese 10 Oct 76 p 6

[Text] Brasilia--The minister of health, Almeida Machado, today, for the third time, has transferred his office to a city in the northeast which is infected with endemic schistosomiasis. This time it is to be Palmares in Pernambuco where Almeida Machado will oversee the execution of a special program for the control of schistosomiasis.

Begun in July in the Alagoas city of Uniao dos Palmares, the special program for the control of schistosomiasis includes the localization and characterization of the snails [caramujo] and the inspection of the water supply and drainage systems, constructed by the Special Public Health Service [SESP] Foundation. Almeida Machado will remain in Palmares until next Sunday, when he will return to Brasilia.

One of Almeida Machado's first moves in Palmares will be to call a meeting with his advisers to analyze the "Program for the Investigation of Health and Sanitation Measures in the Northeast," approved last month by President Geisel. This program has for its objective the carrying out of simple measures for basic health and sanitation in all the cities, towns and villages in the Northeast with less than 20,000 inhabitants.

In addition to Palmares, where the minister's office will be located, field work will be undertaken in five other Pernambucan cities: Ribeirao, Gameleira, Agua Preta, Joaquim Nabuco and Catende.

With this special program, Minister Almeida Machado hopes to reduce the index of schistosomiasis prevalence and prevent the spread of the disease into areas not yet contaminated, such as Amazonia and Pantanal in Mato Grosso. In his opinion, if nothing is done, schistosomiasis will inevitably reach the people of those regions and then "Brazil will never again succeed in getting rid of it."

In keeping with the methodology approved by the minister of health, no medication will be resorted to at this time. Measures will be limited to determining the significant epidemic factors and the erection of a basic sanitation system to avoid the reinfection of the population after the treatment. Besides hygienic education, the administration of the chosen remedy--oxaminiquine or mansil--will be undertaken at a date to be decided upon by the minister, probably at the beginning of next year.

Recommendations

As on his earlier trips, Almeida Machado made a series of recommendations to his advisers and his escorts, among them that they should avoid attending ceremonies, dinners and festivities that incur expenditures for the state and the cities; that their visits be limited to those concerned exclusively with their work; and that automobile trips be reduced to the strictly necessary, giving preference to moving about on foot to economize on fuel.

DISEASES DECIMATING AMAZONIAN INDIAN TRIBE

Rio de Janeiro JORNAL DO BRASIL in Portuguese 30 Aug 76 p 12

[Text] Porto Alegre--The Ticuna Indians of southern Amazonas live at a level that regressed to the standard of the lowest strata of Brazil's rural proletariat. Their mortality rate stands at 50 percent of the children up to 15 years of age, victims of infectious diseases transmitted by the white population of the area.

The denunciation was made yesterday by Sr Francisco Salzano, the secretary general of the International Association of Human Biologists, as the result of a study carried out during the last 2 months by 12 North American and Brazilian geneticists. The study involved 4,000 Indians from 6 different tribes.

Research

Salzano, a geneticist from the Federal University of Rio Grande do Sul, and James Neel, an American from the University of Michigan, coordinated the study. The research covered Ticunas (in the areas of Umariacu, Maraja, Feijoal, Bom Jardim, Vendaval, Nova Italia, Campo Alegre and Belem); Baniwa (in the area of Cachoeira de Jandu, northern Amazon region); Katukina (in

Marari, northeastern Amazon region) and Katukina (in Sete Estrelas, in the territory of Acre); Panos do Leste, through some subgroups of Cashinawa (in the areas of Canaberava and Paredao, in Acre) and of Jaminawa (in Morada Nova, Acre); and the Kanamari tribe (located in Entreunidos, southern Amazon region).

The study was the second in the series of seven stages in a program promoted by the U.S. National Foundation of Sciences through the research ship Alpha-Helix, anchored at the Port of Leticia, Colombia, on the Brazilian border at Tabatinga. The Brazilian city is the point of departure for the various native areas being studied.

The research group included three more Brazilians: Bernardo Herdtmann, a geneticist from Rio Grande do Sul; Moacyr Mestriner, a specialist with the Faculty of Medicine of Ribeirao Preto, Sao Paulo, who was replaced by a colleague from the same faculty, Dr Aguinaldo Simoes; and Jose Alberto Nunes de Melo, a doctor with the National Research Institute of Amazonia (INPA). The studies were basically medical and biological, and investigated the biological differences in individuals in correlation with demographic factors (population structure, migrations) and patterns of disease. [sentence as published]

Trouble Areas

After the Indians were examined medically and blood and feces samples collected, the researchers spent a year analyzing the data thoroughly. According to geneticist Francisco Salzano, some conclusions can already be verified, such as the 50 percent mortality rate in children. He also pointed out that in some communities of Ticunas--the group most studied--there is already tuberculosis, transmitted by white populations who, like the Ticuna, are concentrated along the Solimoes River in the south of Amazonas.

Although malaria was also verified in several tribes, the indigenous groups, principally those near the edges of the Solimoes River and the white population, are mainly troubled with dysentery and with worms that provoke anemia, an ailment caused by malnutrition--hunting and fishing are rare in the area and diet is limited almost entirely to cassava.

Warning

"The major problem of the natives in that area is the lack of guarantees as to the ownership of their lands. The reserves are not marked and there are areas of dispute, such as in the area of Vendaal, where there are groups of Ticunas whose ownership of the land is being contested in the courts by various business concerns. The situation is unstable and could become worse, leading to conflicts such as those which have recently occurred in Mato Grosso," the Rio Grande geneticist warned.

He added that the National Research Institute of Amazonia is concerned about the outbreak of onchocerciasis, a disease heretofore unknown in Brazil, which has been verified in the area of Toototobi, in Yanomanas Indians. Onchocerciasis, an infection from worms carried by the "pium" fly [buffalo gnat (*Simulium Pertinax*)], can cause blindness. The examinations of the most recent study sought to find if the disease has been carried to the six tribes that were analyzed. Sao Paulo researchers Moacyr Mestriner and Aguinaldo Simoes discovered a new system of blood enzymes, which will be analyzed in Sao Jose dos Campos.

Geneticist Salzano also said that the large native communities of the region, initiated by religious missions and the FUNAI [National Indian Foundation], "should be established only after there is a minimum plan for public health, which is not generally the case." While he admitted the difficulty in giving assistance to groups which are quite scattered, the Rio Grande geneticist said that "work in prevention is needed, mainly through vaccination to prevent epidemic outbreaks."

SCHISTOSOMIASIS SAID TO THREATEN THREE AREAS

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 22 Sep 76 p 26

[Text] Brasilia--"If we continue to do nothing, schistosomiasis will penetrate the marshland of Mato Grosso, Amazonas and Rondonia. We must certainly take up arms, because Brazil will never be rid of the disease if we do not take new measures," Minister of Health Almeida Machado warned yesterday. He was speaking to the 100 participants of the first technical-administrative meeting of the Superintendency of Public Health Campaigns (SUCAM), at the Ministry of Health. The meeting ended today.

The minister concurred with several specialists as to the possibility of eradicating snails, adding: "Not even Fiocruz (a new insecticide used to eliminate snails) will be able to kill them all, and I have no illusions about this: There is no pesticide capable of exterminating healthy snails. The only sure thing would be to combat the disease biologically, but this is impossible, so we have to try to put a freeze on the spread of schistosomiasis. The country has neither the time nor the money for repetitive studies with Oxaminiquine (Mansil), which has been widely tested in Egypt and with positive results in Guaira (Parana) and Touros (Rio Grande do Norte). We can't go on with a tick-tock technique, bouncing back and forth all the time, doing the same tests that have already been done all over the world. What we must do is to plan, and to medicate promptly with three tablets a day per person."

This is the first time the health minister has given a full explanation of schistosomiasis in Brazil and stated the government's strategy for combating it through a new public health approach. On a given date, to be established later, all victims will be treated with Oxaminiquine and

pesticides will also be applied to snail infestations, reducing them to near extinction, with the hope of reducing the number of schistosomiasis carriers in the country to 4 percent.

Almeida Machado alerted SUCAM's regional directors to the increasingly grave schistosomiasis problem, urging them to seek a new public health approach, as yet unused in this country, which might offer hope of combating the ailment, because whereas snails die in less than 30 days' time, men live a whole lifetime with the disease.

"We don't have time to educate everyone," Almeida Machado continued. "We must find some means of public communication to reach everyone and make men understand that where there are no sanitary toilets, human feces must be buried. If the people in the endemic areas have no toilets, they should dig holes some place and bury their excrement, as cats do. If we can achieve this, it will be enough to keep the disease from being transmitted. We can't solve the problem through medication and medical assistance alone. It must be made clear to the people, in language they can understand, that they must avoid leaving feces on the surface of the ground."

VACCINE TO CONTROL CHAGAS DISEASE FORECAST WITHIN YEAR

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 18 Sep 76 p 22

[Text] Brazil will have a vaccine to control Chagas disease within 1 year at the most. Three German scientists are in the country to conduct a field test on dogs from Chagas-disease infected areas and, if the test is approved, it will also be applied to human beings.

The information was given yesterday by the superintendent of the Hoechst laboratory of Brazil, Wolfgang Waldhoff, who sees in the new vaccine the only solution to control Chagas disease, predominant in Latin America and Asia. He made it clear, however, that the vaccine would not nullify the basic sanitation programs and housing improvement now being developed by the Ministry of Health.

He also made known that the Behring Institute, branch of the German Hoechst, is developing a reagent by means of a blood test in order to diagnose leishmaniasis at the onset of its development, which has hitherto been impossible, adding that German scientists also intend to engage in research into another reagent for the treatment of schistosomiasis.

After remarking that Brazil is the largest reservoir in the world of tropical endemic diseases, Wolfgang Waldhoff said that Hoechst is establishing an immuno-parasitological research center in Teresopolis, in the state of Rio, intended for basic research. According to him, the center's purpose is to reduce the greater part of the country's epidemiological

problems, such as Chagas disease, schistosomiasis, leishmaniasis and the arboviruses (responsible for the encephalitis found in Sao Paulo).

Waldhoff said that it is impossible to undertake short- or medium-term research in Brazil because of a lack of personnel trained in parasitology. To solve this problem, at the beginning of next year the Behring Institute will send to this country a German scientist, one of whose main tasks will be to train a Brazilian immunologist willing to work in the totally unexplored immuno-parasitological field.

The Teresopolis immuno-parasitological research center is being supported by the reagent-training laboratory established some months ago and operating in Sao Paulo. Outstanding among its duties are: to train national personnel on different levels; to evolve modern and sophisticated laboratory techniques indispensable for establishing a research program; to keep cultures of primary pathogenic agents in both a quantity and variety sufficient for conducting research; and to maintain an interchange of data with national and foreign scientists and universities on subjects related to research.

The Teresopolis center will initiate the performance of tests and immunological diagnoses which will make it possible to render the most accurate diagnoses (one at a time or on a large scale) of parasitic diseases prevalent in Brazil. The Behring Institute, according to the Hoechst superintendent, has already produced two tests which are now used in the country: Chagas-Latex and a skin test for schistosomiasis.

FOOT-AND-MOUTH DISEASE IN CHILDREN

Rio de Janeiro O GLOBO in Portuguese 29 Sep 76 p 7

[Excerpt] Belo Horizonte--After the hospitalization in this capital of two children aged 3 and 4 years, suffering from foot-and-mouth disease, Mario Hugo Ladeira, the municipio secretary of health, strongly urged people to boil milk well before using it. He said, however, that there was no cause for alarm because by the end of the week his office will receive the results of tests underway at the Ezequiel Dias Institute designed to determine the presence of disease foci in the milk.

CASES OF GERMAN MEASLES INCREASE IN RIO

Rio de Janeiro JORNAL DO BRASIL in Portuguese 3 Oct 76 p 31

[Text] The increase in cases of German measles is a matter for concern, but it remains for the government to classify the outbreak and the Ministry of Health is encountering difficulties in securing vaccines, said Felipe Cardoso, municipal secretary of health, who asserted that he could

do nothing. The illness is contagious and its external signs are spots on the skin.

In the Rio Basic Urban Planning seminar, sponsored by city hall, the secretary considered the death index in the municipio to be high: 9.1 percent. He also admitted that he did not know "exactly the cause of the outbreak" of the German measles, which is connected with sanitary problems.

Remedies

The secretary stated that it was the municipio's duty to eradicate the disease, but this depends on federal and state authorities. He also made it known that regarding its sanitary problems, that Rio has 4.14 million inhabitants with a minimum of 16.7 percent of the population living in slums [favelas].

He also stated that, with the exception of the Oliverio Kraemer hospital, the other 15 municipio hospitals are well located and the 23 health centers and 11 hospital units considered sufficient. He explained that the expansion of services depends mainly on personnel: "With more qualified personnel, productivity would be greater, and sufficiently adequate for the municipio to have no need to invest a great deal in the physical expansion of the units."

The 1,465 workers needed at the moment should be hired by next year. Under construction are the Salgado Filho hospital whose 260 beds will relieve Souza Aguiar with 450 internments a month, and the Miguel Couto, which will acquire a new emergency section as "the present one is the worst possible."

Agreement

Mr Felipe Cardoso said that the agreement with the National Social Security Institute [NPS] made it possible for the ministry to invest in 10 hospitals. Were it not for this, it would not be possible because next year's budget, sent to the legislative assembly for appraisal, has 90 percent of its resources allocated to current running expenses.

In 1977 the agreement will be extended to three more hospitals, mainly for the improvement of the condition of equipment. On a long-term basis, and with budgetary resources, the construction of a hospital is planned for the Barra de Tijuca; in this way, the health program will follow the city's urban planning trends, for it is anticipated that the most marked expansion will be in the western region.

The Rio Basic Urban Planning seminar, held at the Society of Engineers and Architects [SAERJ], will continue on Monday. The municipal secretary of tourism, Pedro Toledo Pizza, will speak at 1530.

GERMAN MEASLES OUTBREAK IN PIAUI

Rio de Janeiro JORNAL DO BRASIL in Portuguese 21 Sep 76 p 15

[Text] Teresina--German measles--an eruptive virus disease with high fever--is rampant in this capital. At the Sacred Heart of Jesus College, in one class alone, there were six cases involving children between 11 and 12 years old. The analytical laboratories' lack of chemical elements needed to diagnose the illness in its incubation stage is causing grave concern because German measles, although benign in children, becomes a serious matter in the first semester of pregnancy as it causes cardiac lesions, mental retardation, cataracts and deaf-muteness in the fetus.

STATISTICS ON INFANT MORTALITY REPORTED

Rio de Janeiro O GLOBO in Portuguese 28 Sep 76 p 2

[Text] Out of every 1,000 children born in the towns of Vitoria, Pombos and Cha de Alegria--in the Zona da Mata and Agreste Setentrional in Pernambuco--at least 228 die before reaching 1 year of age. In Pombos, where the situation can be considered more serious, research carried on for 5 years and concluded last week, shows that only 20 percent of the population reaches 50 years of age.

According to the same survey, made by a team from the Nutrition Institute of the Federal University of Pernambuco, the mortality from 0 to 4 is 69 percent, which if not the highest rate, is undeniably one of the highest in the country.

The study points out as the most significant cause of the high infant death rate is gastroenteritis and other infectious diseases which have a high incidence not only in Pombos but also in the other two towns.

Based on these data, a community health program--Project Victory--was started in order to cover a region with a 654-square-kilometer area and a population of 131,116 inhabitants (61 percent in the rural area and 39 percent in the urban area). The program was designed to improve the health conditions of communities which, according to research, are on the lowest rung of the health scale.

The doctor and researcher, Amauri Coutinho, the project's general coordinator, said that the area was chosen after an understanding with the Pernambucan Ministry of Health, because the work is the result of an agreement between the state government and the Federal University of Pernambuco and the finding that there is a high incidence of infectious diseases, malnutrition and infant mortality in the three towns.

"In addition," he added, "local health units, all connected with the Ministry of Health, give evidence of reasonable physical conditions which can be made good use of for the project's subprograms."

Project Victory's nine subprograms are concerned with overall medical assistance: the organization of community health groups; information on human resources; boarding and student residence in a regional rural hospital; dental assistance; epidemiology and control of contagious diseases and medico-social research.

Financing

Dr Amauri Coutinho explained that the project will give medical assistance and will carry out an integrated system made up of teaching activities intended to spark the medical student's interest in new fields of study more directly related to public health.

The program, begun in September of last year, employs 35 fully qualified doctors and includes the participation of all the health centers of the Federal University of Pernambuco. For financing, it is counting on 280,000 dollars from the U.S. W. K. Kellogg Foundation, to be used over 3 years.

BURMA

ANTI-ENCEPHALITIS CAMPAIGN TO BE LAUNCHED

Rangoon THE WORKING PEOPLE'S DAILY in English 20 Sep 76 p 1

[Text] Rangoon, 19 Sep--The Health Department is making arrangements to launch a campaign against the Japanese encephalitis which is occurring in various parts of the country.

The disease was first reported in the border area in 1974 when one of five afflicted persons in Tachilek died. The Japanese encephalitis later spread to Kengtung, Lashio and Hsenwi in 1975 when 42 cases were reported.

The disease has now spread to various parts of the country and the Health Department is charting a programme to bring it under control with the active participation of the working people.

CHILE

ALL INHABITANTS OF A VILLAGE CONTRACT TUBERCULOSIS

Santiago LA TERCERA DE LA HORA in Spanish 30 Sep 76 p 7

[Article by Juan Carlos Poli]

[Text] Guallatire--Almost all of the 210 inhabitants of this village, nestled in the midst of the altiplano 240 kilometers from Arica, are suffering from tuberculosis, and for this reason a special commission from the National Health Service will visit there next 10 October.

This is a problem which has been around for many years but which is now becoming a crisis as the illness is widely propagated because of the lack of hygiene among the area's inhabitants as well as biological conditions which favor its spread.

It is a well-known fact that when the residents of this area go to live in the city, that is to say Arica, they are very susceptible to tuberculosis because they lack the resistance that the urban population has developed. The individuals who contracted the disease in Arica were probably its first carriers; the virus then spread, affecting many of the villagers, and adapted to the high altitude conditions and the blood characteristics of the people in the area. Moreover, the dietary habits of the region are improper because of the lack of appropriate natural resources, which leads to deficiencies in vitamins and nutrition. The people in this area are engaged in raising and tending llamas and alpacas; desolation reigns in this region, and nature seems to be beating a retreat, since aside from the cattle which feed on coarse vegetation which is becoming increasingly scarce, there is no other source of food for man.

Serious School-Age Problem

A few days ago seven Guallatire school children were brought down to Arica because they were suffering from advanced cases of tuberculosis. This was done after a great deal of difficulty in convincing their parents, who habitually oppose having their children go down to Arica because they have to tend the flocks together with the women.

After they had been hospitalized and had improved somewhat, they were returned to their town, and many of them have had a relapse, making their condition more delicate.

Of the 25 students who are currently attending the small school, all could well have tuberculosis, and the same is true for their parents and the two teachers in charge of the facility, Jorge Prieto and Fernando Fernandez, who must be under continuous preventive treatment to avoid contracting the disease.

In addition, availing themselves of the knowledge acquired during a special training course given by the National Health Service, they have to concern themselves with administering medicine to the sick and promoting the development of hygienic practices among the students and the villagers in general, which is very difficult in view of the customs which they have kept since time immemorial.

TYPHUS (POSSIBLY TYPHOID) FEVER OUTBREAK IN PUERTO MONTT

Santiago LA TERCERA DE LA HORA in Spanish 25 Sep 76 p 2

[Text] According to an announcement made yesterday after 5 pm by Dr Leonel Rojas, chief of epidemiology of the National Health Service, five nurses' aides at the Regional Hospital of Puerto Montt are suffering from typhus (possibly typhoid).

The above information was made available after the Bacteriological Institute had supplied the results of blood tests performed on the patients. The announcement laid to rest all the fears and doubts that had arisen regarding the disease, which until yesterday was unidentified. The disease claimed the life of one of the nurses' aides in the Pediatrics Department, Viola Altamirano Bustamante.

On the other hand, Dr Leonel Rojas pointed out that the outbreak was entirely under control and that it constituted no danger for the population. He also explained that the disease had not and would not strike children who were hospitalized in the institution because all necessary measures had been adopted.

The epidemiologist indicated that the condition of the other four aides was satisfactory, according to information obtained from the Regional Hospital of Puerto Montt around 5 pm yesterday.

Hospital authorities and the citizens in general passed anxious hours waiting, because of the complete uncertainty surrounding the disease manifested in the five women between 6 and 16 September.

Until the laboratory results were obtained, there was no clue by which a diagnosis could be anticipated. Just a little before the laboratory results became available, Dr Leonel Rojas, who had gone to Puerto Montt to evaluate the situation, said that there was no factor common to all the cases.

All of the public conjectures and anxiety that had begun to develop terminated with the establishment of the diagnosis and implementation of all requisite measures.

MEASLES EPIDEMIC IN PROVINCE OF BIO BIO

Santiago LA TERCERA DE LA HORA in Spanish 21 Aug 76 p 2

[Text] The number of deaths caused by an outbreak of infectious disease in the interior of Santa Barbara (Los Angeles) has risen to 12. Five of the victims were children and their deaths were caused by measles. Medical authorities are investigating the diagnosis in the case of the seven adults. This announcement was made yesterday afternoon by the National Health Service [SNS].

The 12 deaths were attested to by witnesses who stated that the adults (between 30 and 30 years) exhibited respiratory problems. It is therefore assumed that there may have been complications of the influenza which struck the country in recent months. Others also presented exanthema (red spots) on the skin.

All of the deaths occurred in the month of August. Because there is a measles outbreak, the death of the children is attributed to this virus. To clarify the doubts, and if weather conditions permit, the epidemiology chief of the Eighth Region will go to the interior of Santa Barbara by helicopter today.

It was also reported that 14 persons have been hospitalized with measles in the Los Angeles Hospital.

No Danger

There is no possibility that the infectious focus detected in the interior of Santa Barbara (Los Angeles), which may be measles, will spread to other areas.

This was told to LA TERCERA by the epidemiology chief of the National Health Service, Dr Leonel Rojas. The doctor pointed out that to date the diagnosis was not established, because it is rare for adults to die of measles. "It is likely that another disease and not measles is involved."

Isolated Locations

The reason for the death of the 12 persons was the lack of medical attention. These individuals were inhabitants of small villages located in the precordillera area, access to which is almost impossible. It is also for this reason that these people never come to any semiurban centers.

The authority indicated that all children, not only in this area, but in the entire country have been vaccinated. Thanks to the effective vaccination campaign, this disease has decreased greatly in recent years. "It is a very effective vaccine with a 96 percent security rate, i.e., out of every 100 children vaccinated, 96 can be totally certain of immunity. A single dose administered when the child is 8 months old is sufficient," he said.

Free

The physician took advantage of the occasion to remind all mothers that when their babies were 8 months old they should take them for vaccination to the nearest SNS center. "The vaccination is entirely free," he said.

The disease attacks children in the early years. Its external signs are the typical red spots (exanthema) and lesions on the buccal and bronchial mucosa, etc. (enanthema), and high temperatures. The people also refer to the disease as "alfombrilla." Dr Rojas recommended to the mothers that if these signs occur, they should go to the nearest welfare center without delay because, if they are not treated in time, children can die of the disease.

He explained that "this is caused by the fact that the disease is caused by a virus which causes a great reduction in defenses. Consequently, the children are exposed to infections due to pathogenic microorganisms; there may be infectious complications such as pneumonia and bronchial pneumonia which can at times be fatal."

Lack of Control

The fact that foci of some type of disease appear periodically in the southern areas is due precisely to the above explanation by the doctor. There are regions where the people normally do not come for treatment, either because of indifference or the distances. "We intend to be able to reach all the places as isolated as they may be, and also to have a resident physician in every town or rural location where there is a hospital." This is not yet a reality but the health authorities are making every effort to achieve this aim as soon as possible. Dr Rojas said that physicians from the next graduating class would be sent to these areas.

Medical Distribution

In addition to the customary allotment of physicians for the southern area, the SNS in January of this year assigned 2 more physicians to Los Angeles, 2 to Mulchen, 2 to Nacimiento and 1 for Laja. The hospital at Santa Barbara is without a physician because there was no interest on the part of the doctors in choosing this area when it came up for assignment. However, the lists have been opened again and the problem will be solved in the near future.

Santiago LA TERCERA DE LA HORA in Spanish 25 Aug 76 p 5

[Text] Only one adult, aged 30, has died of measles in the Los Angeles area. The total of 17 deaths that occurred during the winter were caused by bronchial pneumonia, influenza, gastric cancer and other diseases that

primarily strike elderly individuals. These statistics are among the principal results obtained in an extensive investigation of the area carried out by a medical team from the National Health Service [SNS] of the Eighth Region headed by Dr Juan Barrientos.

The General Office of SNS reported that during this year, a total up to now of 17 adults and 8 children were hospitalized in the Los Angeles area because of measles. They are receiving the necessary medical care. Moreover, vaccination programs in the area so far have a coverage rate of 51 percent, which is absolutely normal for this time of the year.

Technical teams of the SNS are periodically monitoring implementation of the vaccination programs, which include measles immunization as well as public education.

COLOMBIA

TYPHOID EPIDEMIC

Madrid EFE in Spanish 1635 GMT 27 Sep 76 PA

[Text] Pasto, Colombia, 27 Sep--A typhoid epidemic was detected in this southern area on the border with Ecuador. So far, 200 cases have been reported. Dr Alfonso Ortiz Segura, chief of the campaign against the disease, was optimistic that the epidemic can be contained, noting that if it is treated in time, as has been done, there is no serious danger.

EAST GERMANY

PUBLIC HEALTH STATISTICS

East Berlin BAUERN-ECHO in German 16/17 Oct 76 p 6

[Excerpts] Infant mortality, in terms of 1,000 live births, declined from 18.5 percent in 1970 to 15.7 percent in 1975. The average life expectancy has continued to increase in recent years to almost 69 years for men and to over 74 years for women. In 18 research projects purposeful contributions have been made toward combating diabetes, tuberculosis, kidney disease, and rheumatism; these research results have been put into actual practice. Thus far, components of the comprehensive cardiac infarct program have been applied in 39 kreises of the GDR, a fact which has led to better patient care.

SERUM FOR INFLUENZA DIAGNOSIS

East Berlin TRIBUNE in German 27 Sep 76 p 4

[Text] After several years of research activity on the part of scientists from the Institute of Medical Microbiology of the Friedrich Schiller University at Jena, a diagnostic serum, which is of a purity hitherto not attained in the GDR, has been developed for the rapid detection of viral influenza. The result of this research work, which specialists designate as a labeled antiserum [markiertes Antiserum], is currently being applied to practical use jointly by the Sachsen Serum Works, Dresden, and the Institute for Applied Virology, Berlin. An improvement in the diagnostic possibilities in connection with epidemic influenza diseases can be expected. It is anticipated that this serum will be used by several bezirk hygiene institutes before the end of this year.

MASS IMMUNIZATION PROGRAM UNDERWAY FOR INFLUENZA

East Berlin TRIBUNE in German 4 Oct 76 p 5

[Text] Protective influenza inoculations have been carried out in all kreises of the republic since 15 September and many citizens and work collectives have taken advantage of them. The vaccine used gives considerable protection against illnesses due to A/Victoria causal type, which unleashed the epidemic early this year and the appearance of which in fall and winter has to be taken into account again, according to an assessment of WHO.

Prof Dr Konstantin Spies, deputy minister of health, stressed in a press conference that inoculation is especially recommended for laborers working in areas especially associated with infection. These are, among others, those active in trade and supply, construction and transportation, education and health. In the inoculation action, which is to run until 30 November, whole collectives are to participate if possible, in order to achieve a more comprehensive immunization. The mobile health units, and especially the kreis and bezirk hygiene inspectorates give out information about possible incompatibility of the inoculation in the case of certain illnesses and other special questions.

As Professor Spies emphasized, protective inoculation against influenza--according to international experience as well--is the best prophylaxis. It gives 60-70 percent protective effect against the current causal type in general. The effect is dependent upon the "penetration level of the inoculation" and also upon how many citizens of a country have themselves immunized.

The fact that influenza viruses crop up from time to time in new variants makes the struggle against influenza difficult. This gives rise to the

necessity of changing vaccine development and production in accordance with conditions, and to switch over quickly when required. The solution of this task requires technologically highly developed production. The national influenza laboratories in all parts of the world--and the GDR Reference Laboratory is among them--are coordinated by WHO; they watch over and control influenza viruses and their dissemination.

In the GDR, stresses Professor Spies, the prerequisites are currently being created so that within 2 to 4 months, vaccine of high quality can be produced in sufficient quantity against a new causal agent of influenza which might appear. There is a close cooperation, especially with the USSR, in this regard. Preparations are currently being made there to convert to a new method of vaccine production. The causal agents of influenza used are concentrated and cleansed of excess albumens. This means a broader improvement of the compatibility and effectiveness. The institutes of the GDR included in the Research Association for Protection Against Infection, the Saxon Serum Plant, Dresden, the Institute for Applied Virology, Berlin, and the State Control Institute for Serums and Vaccines, Berlin, are also working in this direction in close cooperation with the USSR.

ECUADOR

MEASLES OUTBREAK IN 10 AUGUST PARISH, SUCRE

Guayaquil EL UNIVERSO in Spanish 20 Sep 76 p 8

[Text] Portoviejo (AEP)--An epidemic outbreak of measles detected in the 10 August parish in Sucre Canton has caused worry and anxiety among the population of this area. There is even greater concern because several children died.

It was reported that there is increasing concern because it was announced that there is no vaccine for the children at the health center and that there is also no medical attention. In its alarm, the population has requested, via the political deputy, that doctors with enough vaccine to control the disease attacking this small settlement be sent immediately.

VARIOUS TYPHOID CASES REPORTED

Quito EL COMERCIO in Spanish 13 Sep 76 p 24

[Text] An atmosphere of alarm has been noted in various parts of the city because of the numerous cases of typhoid reported in recent weeks. There have been outbreaks in hospitals and private homes and the laboratory tests have yielded positive results.

According to statistics from the Pichincha Health Office, 40 cases of affirmed typhoid had been reported in the Espejo, Vozandes and Military Hospitals by 16 August.

The reports requested by the Health Office are not up to date because, according to information from various parts of the capital, cases have been more numerous in recent days.

Persons living in areas such as La Floresta reported very recent cases which can be regarded as out of the ordinary.

We learned from the Epidemiology Department of the Health Office that at the time of the official statistics, i.e., 16 August, the figure was slightly above normal. However, at this time we do not know how many typhoid patients there are in the city of Quito and it is precisely this [uncertainty] which is alarming the residents.

On the other hand, it was said at the Public Health Office that the drought was primarily responsible for the increase in the number of cases, because the lack of water favors invasion by flies and rats. Fortunately, the winter rains are beginning.

Quito EL TIEMPO in Spanish 20 Sep 76 p 15

[Text] Esmeraldas--It was reported at the Provincial Health Office that a number of typhoid cases have occurred in this city and in the town of Balao. The citizens were therefore told to boil water before drinking it.

According to the report, as a result of this outbreak, an ice factory which appeared to be the site of infection was closed.

The director of health, Dr Sara del Pozo, personally visited the nearby town of Balao, where there were also a number of cases, in order to make a thorough investigation to establish causes and concomitantly to vaccinate the inhabitants.

JORDAN

VACCINATION CAMPAIGN AGAINST CHOLERA BEGUN

Amman Domestic Service in Arabic 1600 GMT 11 Oct 76 JN

[Excerpt] An official source at the Health Ministry has stated the following: As of tomorrow morning, Tuesday, the Health Ministry will begin a general campaign of vaccinating all citizens everywhere in the kingdom against cholera, following the discovery so far of 35 cases.

The patients were admitted to the Al-Ashrafiyah Hospital and the children's hospital in Amman. Sixteen of them have already left hospital after treatment and the other 19 are under medical observation and their general condition is said to be good. There have been no deaths so far.

KENYA

TRAVEL TO SUDAN RESTRICTED BECAUSE OF EPIDEMIC

Nairobi Domestic Service in English 1800 GMT 3 Oct 76 LD

[Text] Kenyan authorities are keeping a close watch on the mysterious disease that has killed more than 80 people in southern Sudan, near Juba.

The minister for health, Mr James Osogo, has said that Kenya has been in touch with WHO officials on the issue.

Kenya has suspended movements across the border with the Sudan as a precautionary measure and canceled flights between Nairobi and Juba.

The disease is reported to be spreading over toward Zaire more than toward Kenya.

The killer disease is said to have symptoms similar to cholera, typhoid and yellow fever. Those affected die after bleeding from their noses.

MAURITANIA

VACCINATION CAMPAIGNS

Nouakchott CHAAB in French 24 Sep 76 p 3

[Excerpts] Within the scope of the health policy of the party and the government, each region is now supplied with one to two mobile medical teams. They are called "mobile prevention teams."

These medical teams go from one settlement to another, administering vaccinations against contagious diseases such as smallpox and tuberculosis. However, on occasion, they also provide our nomad populations with care and instruction in hygiene. Hence, these teams reinforce the rural health posts of which there were 25 in 1974 in the entire territory, not counting the medical stations which are simple offshoots of these.

It should be noted that the efforts made by the party and the government in this sector have required an investment of more than 1.5 billion ouguiya, and that the country's various health organs cared for more than 797,752 citizens during 1974. In the same year, the mobile health teams administered 67,898 measles vaccinations.

Our medical centers now have more than 20 national physicians. There are more than 100 government nurses and midwives, as well as 270 nurses' aides for a population of 1,250,000 inhabitants (1975 statistics). Although clearly inadequate, in view of the country's needs, these figures nevertheless represent a considerable gain for a developing country such as ours.

PERU

CASES OF TYPHUS REPORTED NEAR CUZCO

Lima EL COMERCIO in Spanish 6 Sep 76 p 21

[Text] Cusco, 5 Sep--An epidemic of typhus [tifus exantematico] has struck three rural communities a mere 15 kilometers from the city of Cusco.

The Southeast Regional Health Directorate itself has sounded the alarm, in an official communique. It revealed that several cases of the dread disease had been discovered among inhabitants of the Hua mancharpa, Cachona and Hua sampata districts.

Teams and equipment from the Hospital Area No 2, based at the Antonio Loreno Hospital, proceeded to the region in order to fumigate premises and individuals with human-use insecticides.

The stricken individuals were taken to the Lorena hospital and thorough control measures were instituted for all the inhabitants of these districts, as well as those of neighboring districts.

The Southeast Regional Health Directorate is also issuing a call to all persons living in nearby regions, who may have had contact with peasants from the three districts, asking them to present themselves immediately at the hospital.

It is also being recommended that travelers passing through or near the affected localities, submit to fumigation and to medical examination.

A Health Station was opened at the Huancaro Bridge, at the beginning of the road leading from Cusco to the province of Paruro.

There is reason to fear that the disease will spread rapidly through the districts of Santiago and Paruro, and to the city of Cusco itself.

The calls [for medical checks] are being broadcast constantly by all the radio stations of this city.

SOUTH KOREA

WARNING ISSUED AGAINST CONTAGIOUS HEMORRHAGIC FEVER

Seoul Domestic Service in Korean 0300 GMT 30 Sep 76 SK

[Text] The Ministry of Health and Social Affairs has issued a warning against an expected spread of contagious hemorrhagic fever in the countryside during the harvesting season, instructing municipalities and provinces to take thorough preventive measures.

In its instructions, the ministry called for select medical facilities which have experience in the treatment of this disease and their readiness for prompt action and free treatment of the needy and welfare recipients at hospitals operated by municipalities or provinces. Citizens were also warned not to climb hills or dry clothes or bedding on the grass in areas affected by the disease between late October and early December. In addition, citizens were asked to avoid the excrement of field rats which are known to carry the disease. The disease, which first appeared in this country during the Korean war, is acutely epidemic and spreads in our countryside during the fall and winter seasons. Its symptoms include high fever, severe vomiting, red spots in the armpits and on the chest, and low blood pressure. Its fatality rate is 6 to 9 percent. A total of 154 cases were reported last year in Kyonggi, North Chungchong, and South Cholla provinces.

Seoul KOREA TIMES in English 10 Oct 76 p 8

[Text] The Ministry of Health and Social Affairs yesterday cautioned the nation against the outbreak of hemorrhagic fever in the harvest season.

The ministry instructed provincial health authorities to keep close watch over rural areas vulnerable to the disease.

It also told them to devise efficient diagnosis and referral systems to stop the disease in the early stage of outbreak, in case it occurs.

The ministry health authorities advised the people not to get in contact with wild rodents which are believed to be carrying the germ of the disease.

Hemorrhagic fever was newly listed as a second class legally reportable disease, which requires immediate reports of outbreaks, in a recent revision of the Epidemic Prevention Law. The amendment was put forward to the current National Assembly session.

A total of 154 cases of the disease was reported last year, but the ministry officials said the number might have included other diseases showing similar symptoms.

Prof Lee Ho-wang of Korea University Medical College succeeded in determining the virus causing the disease in wild rodents and their excreta and has been working on developing a vaccine against the disease.

The disease, characterized by high fever and nose bleeding, was believed to be introduced on the Korean peninsula by Red Chinese detachments during the Korean War.

SRI LANKA

NUMBER OF CHOLERA CASES

Colombo CEYLON DAILY MIRROR in English 4 Sep 76 p 1 BK

[Text] According to the latest epidemiological bulletin issued by the Sri Lanka Health Department, there were 74 cases of cholera in the first quarter of this year, with three deaths. This was an increase of 30 over the figure for the last quarter of 1975. In the first quarter of last year, however, there were 1,066 cases reported. The present fatality rate is 4 percent. Of the 74 cases detected in the first quarter of this year, only six were reported in January and February, while 68 were reported in March.

TURKEY

INTESTINAL INFECTION OUTBREAK

Istanbul MILLIYET in Turkish 2 Sep 76 p 7

[Text] Domestic News Service--An intestinal infection, which had taken on epidemic proportions in and around Erzurum several days ago, flared up again after a lull of several days. Some 130 persons have been placed under treatment in various health facilities. Dr Aydin Ozel reported that so far six deaths are attributed to the infectious disease, and assured the

public that preventive measures have been tightened. The source of the disease has been traced to the stream at the Mahallebasi district. The latest 130 cases are in addition to the 200 treated in the initial outbreak. There was a lull of short duration, after which 130 more people were stricken in a matter of 3 days.

Officials reported that, on the average, 30 to 40 people come to the hospital each day. The symptoms of the infection are vomiting, diarrhea, and dizziness. Doctors say that there are several people from nearby villages among the latest arrivals in the hospital.

Health Mobilization in Gaziantep

When the number of intestinal infection cases reached 200 in a span of 1 month, Gaziantep health authorities mobilized all their resources and, as an initial step, clamped down a ban on the sale of foodstuffs and beverages in open-air markets. Hospitals in the area are full to capacity. Authorities emptied the Trachoma Hospital and assigned the beds to infection patients from villages. The Provincial Health Board announced a health mobilization program in rural areas and began to distribute medical drugs free of charge. According to reports, the epidemic is concentrated in the villages of Murgana, Gursu, Korkum, Ziramba, Burc, Burtul, Cakal, Cimenli, and Aril, all of which are located in the area where the Allaben creek pours into the Sacil.

Istanbul CUMHURIYET in Turkish 2 Sep 76 pp 1, 9

[Text] Ankara--CUMHURIYET Bureau--Vedat Dalokay, mayor of Ankara, disclosed that there is a rapidly spreading epidemic in Ankara. At a press conference yesterday, Mayor Dalokay accused government authorities of concealing the epidemic from the public. He said, "The government remains unconcerned and refuses to take preventive measures. Furthermore, the municipal administration of Ankara has been given no information on the characteristics of the disease or the dimensions of the epidemic."

Mayor Dalokay went on to explain that his office contacted the Ministry of Health and Social Welfare and the Provincial Health Directorate, and upon their instruction, carried out a survey in the city. "The epidemic is spreading," he reported. "We discovered that this infectious disease is becoming a serious threat particularly in low-income sections of the city."

The mayor also gave the following information:

"Our pumping stations were unable to operate during the past few months because of the energy shortage. Although we have plenty of water, we were unable to give water to many parts of the city on a regular basis. The water shortage is the major factor in the rapid spread of this contagious disease. Authorities are minimizing the severity of the situation by

describing the disease as an ordinary intestinal infection, but it has already sent many of our citizens to the hospital and there have been fatalities.

"A disease with similar symptoms broke out 3 years ago at Sagsmalcilar in Istanbul and several areas in Ankara. It was diagnosed as 'El-Tor Vibrio' [a cholera vibrio found in pilgrims to El Tor who died with symptoms of dysentery]. It was a germ that originated in ballot boxes and multiplied under the defective order."

Ankara Is Turkey's Calling Card

Mayor Dalokay attacked the Nationalist Front government at the press conference he had called to discuss the spreading infectious disease. He said:

"Our city's name is written in the constitution. This is the capital city of our revolutions, this is Turkey's calling card, this is hope epitomized. Nonetheless, it has fallen victim to the defective regime and finds itself suffocating in the mire of warped urbanization.

"The pressure and the embargoes that the Nationalist Front government applied to Ankara's municipal government in the past year are adding a new problem a day to the capital city's burdens and driving it to ruin. Every year, 100,000 new people join Ankara's population, aggravating the problems of unemployment, squatters' settlements, water and energy shortages, transportation, air and environmental pollution, and destruction of nature. We have sewage running into the streets; health and educational facilities are inadequate. Our very young children are bewildered by the four-shift system in elementary schools. Peace and security are destroyed. There is confusion; there is an order of exploitation which is never satisfied; bread is either inedible or unavailable."

Defective Order Blamed for Epidemic

Dalokay, returning once again to the epidemic, charged, "The government of this defective order, which breeds this disease, returned after 2 years and brought its disease back with it." He went on, "For 2 years, we worked to alleviate the city's energy and water difficulties, and we succeeded. In 1973, when we took over, 120,000 cubic meters of water were allowed into Ankara. Now, however, even in the month of August, we are doing three times better, Ankara receives 320,000 cubic meters of water a day. Nonetheless, our problems are growing like an avalanche because the Nationalist Front government curbs our energy and refuses to support or give assistance to our municipal government.

"We are living in a city which does not have a sewerage system. A city without a sewerage system is like [a person] without a colon. In Ankara, waste water pours into the Ankara Creek, whose tributaries--Balgat, Dikmen,

Incesu, Hatip, Bentderesi, and Cubuk--crisscross the city and cut through the squatter towns. Children play in them. These streams are breeding grounds for germs; they generate disease.

"Despite our repeated applications to the State Planning Organization and the Bank of Provinces, the Nationalist Front government refuses assistance to a city of 2 million people while it releases hundreds of millions to county administrations. That is the reason why we have an epidemic now.

"The government and its agent, the Provincial Public Health Directorate, are the authorities responsible for the health of the capital's residents, but it was the municipal administration which took all the measures to contain the epidemic. We chlorinated the city's water, transported water to acute shortage areas, treated every stream and brook and well with chemicals and lime, but we still lost out to the defective order's disease.

"The Nationalist Front government and its agents, by trying to conceal the facts from the people of Ankara, as they did in Erzurum and Diyarbakir, are heightening the severity of the situation. The government's supporters, who have adopted the government's habit of laying imaginary cornerstones, are hoping to present the raging epidemic as a figment of imagination. An epidemic can be taken under control by alerting the public and winning its support. Otherwise, the disease will take over the city, the country, and then, spill beyond its borders.

"We have a responsibility to the people of Ankara, to everyone in the country, and finally to the entire world. If the government is incapable of controlling the disease it has bred, it should try to win the public's support and fight against it with the public's help.

"We want to warn our people. All the hospitals and other health facilities in Ankara are under government control. The government has pushed municipal organs aside and taken charge of everything in total secrecy. The municipal government has not been given any meaningful information, it has been issued instructions only.

"Our health directorate, despite repeated efforts, has been unable to identify the disease, but the government authorities know what it is, and that it is in epidemic proportions. People in Ankara, particularly families with children, must be extra cautious about the health of their members and sanitary conditions in their environment. They should boil their drinking water, wash fresh vegetables and fruit in plenty of water, and inform municipal authorities at once when they spot accumulations of waste water or observe symptoms indicative of an infection."

Disease Under Control

Mayor Dalokay stressed that the situation did not warrant "serious concern or alarm." In conclusion, he said:

"According to the information we were given, the disease is under control. Nevertheless, it may become dangerous, if not taken seriously. That is why we are asking our people to remain alert. We want to stress that we deplore the attitude of the government and its agents. We call on the government to make a public announcement at once, and inform the public of the facts and what measures have been taken."

A specialist we contacted told us that "El-Tor Vibrio" is "Gzhuanejodolera" [as published] which he described as a "minor" disease. The specialist, who wanted to remain anonymous, said, "Typhoid would be a more serious infection. What we have here also exists in Iran and several other countries. It is not cholera. It is an intestinal infection."

The specialist added, "The disease is not serious, but the issue is very sensitive. Several cups of liquid and some antibiotics would put the infected person back on his feet. All we have to do is to avoid drinking infected water."

In Cukurova

Meanwhile, our Southern Provinces Bureau reported that the "intestinal infection," which so far has been identified in Diyarbakir, Urfa, and Gaziantep, in addition to Ankara, has also broken out in Cukurova, which has a large concentration of workers. The provincial health director, Dr Nevzat Arman, cut short his annual leave and returned to Adana to take preventive measures.

Officials told the CUMHURİYET Bureau that there were 10 cases in Adana in August, and because those patients had diarrhea, the Provincial Health Directorate dispatched health teams to areas where there are large numbers of agricultural workers. The teams will try to find the workers who are experiencing diarrhea and put the necessary measures into effect.

Health Director Nevzat Arman announced that, upon the discovery of 10 cases, reportedly with diarrhea, an initial checkpoint was established at Toprakkale, known as the workers' entrance gate, which is used by workers coming into Cukurova from Gaziantep, Kilis, and Hatay. The second stage of control, the doctor said, was at workers' hostels at Ceyhan and Yarbasi where suspicious cases were issued medicine. The health director also informed the workers and the public in general, through his health teams, that the Seyhan, Ceyhan, and Berdan rivers, which run in open channels, are obviously infected. He reminded the public that the irrigation canals received their water from these rivers; consequently, anyone who drank the water would be running a high risk. The health chief complained that agricultural workers were reluctant to follow his instructions and shunned chlorinated water because of its smell. He said, all that his teams could do was to chlorinate the cups the workers used to drink water. The Health Directorate also alerted the municipal government in writing that food and beverages sold in the open are health hazards, and recommended strict measures.

Dr Nilufer Unver, deputy director of health of the Ministry of Health and Social Welfare, came to Adana to survey the situation and was briefed on the measures in effect in the area.

Meanwhile, upon orders issued by the Ministry of Health and Social Welfare, patients with high fever and communicable diseases were not allowed into private health facilities, but were sent to state hospitals.

On the widespread rumors about fatalities among patients in state hospitals, Health Director Nevzat Arman said, "There have been no deaths so far among intestinal infection patients. I can assure you of that."

Announcement From Health Ministry

The Ministry of Health and Social Welfare cautioned the public that the period from June to October is a critical time for infections of the digestive system, including intestinal infections. The warning came in a statement in which the ministry also strongly emphasized the importance of boiling the water and further purifying it with a chlorine solution before drinking.

The ministry said, fresh vegetables and fruit should be either boiled in water or washed in plenty of chlorinated water before consumption. The ministry also announced that so far no cholera bacteria have been detected.

Cholera Reported in Gaziantep

The CUMHURIYET Bureau in Ankara reports that RPP Deputy Mustafa Gunes from Gaziantep disclosed at a press conference yesterday that cases of cholera were detected in Gaziantep but, he charged, the discovery was "kept secret." Deputy Gunes accused the Nationalist Front government of "irresponsibility," and said, "The Nationalist Front, instead of laying imaginary cornerstones, will be laying the Gaziantep people in their graves."

Istanbul CUMHURIYET in Turkish 3 Sep 76 pp 1, 9

[Text] CUMHURIYET News Center--Minister of Health and Social Welfare Kemal Demir denied that there was a cholera epidemic. The minister's denial comes amid reports of a rapidly spreading outbreak of an infectious disease in several Eastern Anatolia provinces, as well as Ankara.

Minister Demir called the disease, "a highly contagious intestinal infection usually seen in summer months." He added, "It should be considered as an understandable effect of the summer on infrastructural facilities."

The minister said that this was not the first year when an acute intestinal infection developed into an epidemic, and reminded the public that we had a similar experience last year and years prior to that. Mr Demir

assured the public that various health measures were put into effect and there was no reason for concern.

Four Fatalities in Diyarbakir

Meanwhile, Governor of Diyarbakir Nazim Kemal Diniz disclosed that four persons in the city of Diyarbakir died of, what he called, "an intestinal infection." According to an ANKA News Agency report, the governor stressed that it was not a cholera epidemic, the disease was an intestinal infection, and measures were in effect to prevent it from spreading further.

In Gaziantep

Gaziantep reports a widespread epidemic of what was identified as an intestinal infection. So far, 234 cases have been reported; there is one death, and 127 persons are still hospitalized.

Dr Bercis Seden, the health director, said the disease originated in districts where the waste water runs in aboveground canals. He reported that, among these districts, Duztepe, Hosgor, and Karsiyaka had 13 cases each, Unaldi, Ocaklar, Bekirbey, and Kozluca six each, and other districts one or two each.

The health official further reported that currently 17 to 20 new patients a day were coming to health facilities, and the only fatality so far was an 18-month-old child, whom he identified as Emrullah Doymaz from the Kozluca district. He said, there were 127 patients under treatment in the State Hospital, Trachoma Hospital, and the Social Insurances Hospital. Dr Seden said, the disease had spread to Gaziantep's villages also.

Atabek's Statement

Dr Erdal Atabek, chairman of the Turkish Medical Association, released a written statement on the contagious disease which has several areas of the country under its grip, which stressed the necessity for preventive health measures and keeping the public abreast of developments. Dr Atabek said he was confident that the disease can be taken under control at its current rate of contagion. He charged that "the defective order," which gives low priority to health questions, and which "has forced millions of people to look for a means of earning their bread in cities, where they live under conditions totally incompatible with health standards," and those who are trying to perpetuate this order are responsible for the situation.

Istanbul CUMHURİYET in Turkish 3 Sep 76 pp 1, 5

[Text] Let us see what it will be called this time around.

Down in southern provinces, they call it "toxic diarrhea," in the east, it is "acute intestinal infection," and in Ankara, it is called, "intestinal infection."

Several years ago, when a similar "intestinal infection" turned into a raging epidemic in the Sigmalcilar district of Istanbul, we were told that the bacterium was known as "El-Tor." A while later, we were assured that it was "not cholera," but it was "paracholera."

Meanwhile, WHO, without mincing words, announced that there was cholera in Turkey. Our administrators promptly denied it. The disease raged on. Fortunately, winter came early that year, and the danger was over before it became a disaster.

Now, we understand from reports, a similar danger exists in many parts of the country. In southern and eastern regions, we hear, patients who die of "the diarrhea" are buried in lime.

A doctor down south says, "We won't have enough serum to go around if we get more patients."

From the mayor of Ankara comes the announcement that "the diarrhea" is seen in Ankara also.

From the government, however, there has been no official statement, at least not until this article was sent to press. The only exception has been a double-entendre statement by the undersecretary of the Ministry of Health.

Doctors in southern regions forecast a month ago that something like this would happen. This is a disease they have to deal with every year, and this year the outbreak came sooner than usual.

In fact, the "toxic diarrhea" kills a certain number of persons each year in the south. Children, in particular, succumb to it. The annual epidemic is so commonplace an event that, unless it goes beyond its usual limits, the health department does not take any extraordinary measures, and the press is not alerted.

When the Sigmalcilar epidemic began, the government could not bring itself to identify it as cholera. The government's rationale was, "Tourists will not come if we call it cholera."

A reasoning of this sort is shameful when the lives of the country's own people are at stake. The government is saying, in fact, let the tourists come and bring their money into the country; meanwhile, if people at home die, let them die without letting on to foreigners. The Red Kit funeral parlor proprietor's calculations of profit off dying people seems more humane than our government's.

What if tourists come and catch cholera and die here? Will the profit in foreign currency be larger then? Tabloids and picture magazines in foreign lands are forever looking for sensational news items. I can see it now...they will make a multipage spread about a tourist family visiting Turkey. They will decorate it with snapshots of smiling kids. The headline would read, "The Vacation in Turkey Was Their Last." If only one family member dies, there will be an arrow pointing to him in the snapshot, and the caption would read, "They lost him to cholera in Turkey."

We will wait for tourists in vain, not only that year, but also many years after that.

The press tried to warn the government when the disease broke out in Sigmalar. Many newspapers pleaded with the government to identify the disease publicly, to alert the public, and to put proper measures into effect.

In reply, there were statements to the effect that "communists" don't want tourist or foreign currency to come to Turkey.

There is the possibility that a new concern will be added to the thoroughly incomprehensible earlier one. I fear next the government will be saying, "The hajj season is coming. We should not restrict travel. Let them go by land, as well as air."

And the inclination to downgrade the danger of an epidemic will become irrepressible.

We have to abandon this mentality. The Health Ministry is headed by a man who is trying to keep himself above political calculations. He is Dr Kemal Demir of the Republican Reliance Party. Perhaps it is late already, but he should not waste any more time. He should tell the public all there is to tell about this "diarrhea" business.

Istanbul AKSAM in Turkish 4 Sep 76 pp 1, 7

[Text] Three persons, in a coma suffering from the unnamed intestinal disease that has spread to Urfa from Diyarbakir and Gaziantep, have been admitted to the state hospital.

Confirming incidence of the intestinal disease, Urfa Governor Rafet Ucelli told a Turkish News Agency correspondent that "three persons suffering from the illness being called an intestinal infection are being treated at the hospital. The doctors say that the illness was caused by eating food sold in the open and drinking impure water. Officers of the city health department have initiated the necessary measures."

The identities of the three patients admitted to the state hospital in a comatose state were not revealed.

Istanbul CUMHURIYET in Turkish 4 Sep 76 pp 1, 9

[Text] Adana (CUMHURIYET Southern Provinces Bureau)--Incidence of the intestinal infection that has broken out and spread in various corners of the country has begun to increase in the Cukurova area. Occurrences (of diarrhea) about a week ago stood at 20.

Although authorities at the State and Numune Hospitals say that it is not a situation to cause concern, patients whose complaints were diagnosed as intestinal infection have come to private hospitals, but could not be admitted, in accordance with the ministry directive, and were advised to go to the State Hospital.

Provincial health director Dr Nevzat Arman also recounted the precautions being taken by his office against the intestinal infection and said that 20 of 60 questionable patients were released after receiving treatment for intestinal infection. However, confirming what our newspaper reported several days ago, he also announced that efforts were continuing to warn the populace against open-air sales of food and beverages.

In Ankara

A doctor employed at the Social Security Organization's Diskapi Hospital has stated that incidences of cholera have been encountered at the hospital. "Two patients diagnosed as definitely having cholera were transferred to Numune Hospital," he said.

The doctor said that five patients hospitalized at Diskapi were suspected of having cholera. "A portion of the emergency service is closed to other patients," he said.

It has been reported that health teams were sent to Cubuk because one of the patients was an employee at the Cubuk dam.

In Izmit

According to an Anatolian Agency report, a house quarantine was instituted in the Mehmet Ali Pasa district of Izmit as a precaution against cholera. A baby, named Ozlem Ozturk, who lives in the house became ill with diarrhea and was taken under observation at the State Hospital.

According to reports, a Gaziantep native who works in France visited the home of a relative named Mustafa Ozturk in the Mehmet Ali Pasa district of Izmit on the way back to France at the conclusion of his vacation. The worker, named Mehmet Yemisen, later set out by private automobile with his wife and two children, but had to hospitalize one of the children when they reached the Yugoslav border. The child died shortly after admission to the hospital. Upon determination of the cause of the child's death as cholera, the Yugoslav Government notified Turkey of the situation.

Strict measures were taken in Izmit and Gaziantep where the child had stayed following notification to Turkey by the Yugoslav Government. The house quarantine mentioned above was instituted in the Mehmet Ali Pasa district by the Izmit provincial health office.

Pilgrimage Not Restricted

According to an Ankara Agency report, no decision has been made to restrict pilgrimage to Mecca by road in spite of the epidemic disease in Ankara and especially in the south. Health Ministry Undersecretary Osman Yasar said on the matter, "This government is bound by its decision and no such decision has been taken." The undersecretary repeated that the epidemic is not cholera. Minister of Health and Social Assistance Kemal Demir is on an investigative tour in connection with the epidemic.

VENEZUELA

TUBERCULOSIS VACCINATION

Caracas EL UNIVERSAL in Spanish 5 Sep 76 p 25/2

[Text] Barquisimeto--Forty-two cases of tuberculosis a month are uncovered in this city, the majority of those affected being young people between 15 and 18 years of age.

This information was furnished by Dr Douglas Cordero, specialist in pulmonary diseases attached to the Lara State Board of Health, who pointed out that because of this serious frequency, a massive program of vaccination with BCG is being implemented.

Vaccination against tuberculosis will be coordinated by Dr Manuel Adrianza, head of the Tuberculosis and Pulmonary Diseases Department of the Ministry of Health and Social Welfare, in collaboration with the Department of Epidemiology of the health unit. For this purpose, a training course has been set up for the personnel who will be working in the campaign.

As one may infer--Dr Cordero stressed--there are about 500 cases of tuberculosis annually in Lara state, the majority of them located in deprived areas.

How many people annually die of this disease?

"It is estimated that of these 500 known cases, 2 percent die," Dr Douglas Cordero replied on summing up.

Caracas EL UNIVERSAL in Spanish 11 Sep 76 p 9/2

[Text] Approximately 2 million persons under 15 years of age have received shots of BCG vaccine in 13 sections of the republic as part of the massive campaign the country is conducting.

This statement was made by Dr Manuel Adrianza, medical head of the Tuberculosis and Pulmonary Diseases Department of the Ministry of Health and Social Welfare, who said that this vaccine affords protection against tuberculosis and leprosy. Program planning calls for it to be administered throughout the country to cover the estimated susceptible populace of approximately 5 million people. The campaign will be intensified during the month of September because of the reopening of classes in the schools.

Dr Adrianza also announced that, at present, the seventh international series of lectures on epidemiology and the control of tuberculosis is now in session. Attending it are 29 participants, including doctors, nurses and bioanalysts from Argentina, Brazil, Colombia, Chile, Ecuador, Guatemala, Haiti, Panama, Peru, the Dominican Republic, Uruguay and Venezuela. Various topics have been discussed, among them, aspects related to protection with BCG vaccine. Speakers on this topic have been Dr K. Hitze, head of the tuberculosis unit of WHO, and Dr Antonio Pio, regional head of the Western Hemisphere tuberculosis control program. These are two persons with outstanding experience in the control of tuberculosis who have contributed valuable information applicable to the BCG protection program.

Dr Manuel Adrianza, who is personally directing the country's vaccination program against tuberculosis, pointed out that the presence of these specialists in Venezuela is of great importance because their information is very useful, especially at the present time when Venezuela is promoting a massive vaccination program against tuberculosis.

WATER SHORTAGE LEADS TO INCREASE IN DISEASES

Caracas ULTIMAS NOTICIAS in Spanish 16 Sep 76 p 23

[Article by Cesar Ramos C.]

[Text] An increase in gastroenteritis, scabies and other infectious skin diseases was reported among the children of Caracas because of the lack of personal hygiene ensuing from the scarcity of water in the metropolitan area.

As is known, last Sunday, 5 September, the Tuy 22 water station was seriously damaged because of an electrical outage which partially destroyed the installation and caused rationing of the precious element.

Because there is insufficient water for cleaning bathrooms, and for washing underwear and bed linens, and eliminating home waste materials, gastroenteritis, scabies and other infectious contagious skin conditions have found a fertile field. There is the risk of an epidemic with unpredictable consequences, particularly for the children.

Seasonal Gastroenteritis

According to a report by the director of the J.M. de Los Rios Pediatric Hospital, Dr Enrique Perez Guanipa, almost half of the patients admitted are suffering from gastroenteritis.

Dr Perez Guanipa added that it was still too early to ascertain an increase in gastroenteritis cases caused by the water scarcity in the metropolitan area. However, he indicated that the disease could increase as the personal hygiene measures diminished.

He later said that the latent scabies among the Caracas population, which was generally controlled by daily bathing when the water supply was normal, was complicated by the current rationing. In many parts of the metropolitan area, there was barely a trickle of water, which was just enough for food preparation.

The same was true of other skin diseases caused by lice.

Dr Perez Guanipa said that in children the lack of a daily bath or freshening of the skin causes eruptions and rashes which itch and cause the children to scratch, breaking the delicate skin with their fingernails. The matter is complicated by the heat and by sweating, which cause a burning sensation unknown by the children, making them cry inconsolably.

Finally, he told mothers to increase home and personal hygiene measures and to discard food garbage and wastes as rapidly as possible in order to prevent the spread of flies.

GASTROENTERITIS CASES INCREASING IN MAICILLAL DE LA COSTA

Caracas ULTIMAS NOTICIAS in Spanish 26 Sep 76 p 9

[Text] Maicillal de Costa, Falcon State, 24 Sep--Because of a lack of drinking water, gastroenteritis and other diseases (particularly intestinal) are striking the children and elderly residents of Maicillal de la Costa and neighboring villages. The information was supplied by Mr Juan Lara, Jr, a resident of this rich agricultural area of the Falcon coast.

In his report, Mr Juan Lara, Jr said that the mill [molino] was damaged and that there was no action on the part of official organs to repair it

and restore drinking water to this town of more than 2,400 persons, where children and elderly individuals were suffering from numerous diseases, especially gastroenteritis, diarrhea, vomiting and high fever.

Villagers have to take water from wells or ponds which are contaminated, not only because of the inclement weather but also because they serve as watering places for animals, in particular, cows, burros, goats and pigs. Contamination is also caused by dead animals which are thrown in or which die in these ponds.

Every day, many children suffering from gastroenteritis, diarrhea and vomiting are taken from Maicillal de la Costa to hospitals in Coro, Mirimare, Cumarebo, Puerto Cabello and Valencia. However, the lack of drinking water constitutes the basic reason that these difficulties are afflicting the children.

We should like to make this anguished plea via the pages of the newspaper ULTIMAS NOTICIAS, not only to the government authorities of Falcon but also to the various national organisms such as the National Institute of Sanitation Works (INOS), Ministry of Public Works (MOP), Ministry of Agriculture and Animal Husbandry (MAC), and the National Agrarian Institute (IAN), so that they will undertake the solution of this very severe problem that is affecting us and causing us anxiously to seek a solution. This was said in closing by Mr Juan Lara, Jr.

ZAIRE

UNIDENTIFIED DISEASE STRIKES COUNTRY

Paris AFP in English 1213 GMT 8 Oct 76 PA

[Text] Kinshasa, Oct 8 (AFP)--Zaire has placed the Bumba region of upper Zaire in quarantine following the outbreak of an unknown killer disease which is causing panic among the local population. Zaire's Health Minister Ngwete Kikhela said all necessary medical precautions were being taken to protect the local population and to combat the spread of the disease.

Four Belgian missionaries were reported to be among the victims of the disease this week. It has also caused scores of deaths in southern Sudan.

Dr Kikhela said the illness begins with a high temperature, followed rapidly by convulsions leading to a state of shock and kidney failure. The minister said no antibiotics had any effect on the disease. Infected tissues from victims had been sent abroad for analysis, the minister added.

Paris AFP in English 1219 GMT 12 Oct 76 PA

[Text] Kinshasa, Oct 12 (AFP)--A mystery disease causing coma and fatal hemorrhaging has killed nearly 800 people in northern Zaire in a few weeks --and doctors are helpless against it.

Researchers at Belgium's Royal Institute of Tropical Medicine in Antwerp believe they have isolated a virus causing the illness, but it could be months before a vaccine (?can be) perfected. Meanwhile, people in the affected areas have been isolated in specially-built shelters like medieval leper-houses and the entire area has been sealed to air, land or river traffic [words indistinct] food supply problems.

Fear is spreading in the capital because a Belgian nun who caught the disease was brought here and died more than a week ago. No one knows how the disease is transmitted or the length of its incubation period.

Dr Gilbert Raffier, head of the French medical mission in Zaire, said the disease started with what seemed to be a simple cold, followed by migraine, fever, coma and finally bleeding through the skin, causing death within a week.

II. ANIMAL DISEASES

BRAZIL

OUTBREAKS OF HOG CHOLERA

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 29 Jul 76 p 39

[Text] Porto Alegre--Hog cholera which broke out 20 days ago in Alto Taquari has already caused the death of 230 animals in the interior of the municipio of Mucum, 177 kilometers from Porto Alegre, and is threatening the herd of 200,000 hogs of that region. The dead animals belonged to the farm of the Lucca Brothers (150) and the breeder Ferdinando Bastiani (80). A more precise survey of the situation is not yet available, according to information given yesterday by the vice mayor, Alcides Dacherrey.

Besides this, in order to protect the 33,503 hogs of Encantado, the municipio near Mucum, the local veterinary inspector is making arrangements for mass vaccination of the animals, and the Animal Sanitary Protection Unit of the Secretary of Agriculture, admitted the incidence of hog cholera in at least six rural properties of the region, according to a statement of veterinarian Waldemar Fontes.

The threat of cholera also affects the 45,804 pigs of Estrela, 136 kilometers from Porto Alegre, but the mayor, Gabriel Malmann, said yesterday that the greater problem still continues to be foot-and-mouth disease of which cases already are reported to have been registered in 400 of the 5,000 rural properties of the municipio.

Malmann added that "the situation is so serious that some persons have likely been affected by the disease." In fact, according to information from Canon Hugo Wolker, the wife of Professor Nilo Scheller, president of the district of Linha Santo Antonio, is reported to have contracted the disease.

According to Deputy Aldo Pinto of the MDB [Brazilian Democratic Movement], the responsibility for the present outbreak of foot-and-mouth disease in

Rio Grande do Sul belongs to the Ministry and the State Secretary of Agriculture, by order the agency for the coordination and development of the campaign against the disease in Rio Grande do Sul. "This new virus," affirmed the deputy, "was identified in January of this year in Uruguaiana, but the two agencies did not act as they ought to have: the ministry, through lack of interest or because of the bureaucracy, did not send the money necessary to begin the manufacture of new monovalent vaccines. And the Secretary of Agriculture was completely lost in the battle against the fever."

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 25 Sep 76 p 20

[Text] According to reports from Porto Alegre, hog cholera already claimed more than 4,500 hogs in the last 2 months in Alecrim, located about 567 kilometers from the capital, near the Argentine border. In an effort to avoid contamination of the rest of the herd of 30,000 head, a mass vaccination campaign has been started, after some delay in recognizing the origin of the disease because the municipio has no veterinary inspector. The situation is serious because vaccination has no effect on contaminated animals and many deaths have continued to be registered in recent days. Then, too, these are small operations and most breeders are not in a financial position to absorb the loss of the hogs, and this will be reflected later in the revenues of the municipio itself.

CATTLE VIRUS IN SAO PAULO

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 19 Sep 76 p 72

[Text] An ailment diagnosed as "viral diarrhea" has been attacking herds in some municipios in the south of the state for the last 2 months, causing the death of more than 250 head of cattle, veterinarian Fortunato Santoro, of the Sorocaba Dairymen's Cooperative, stated yesterday. According to the veterinarian, "we are dealing with violent diarrhea, not only in the speed with which it spreads through the herd, but in its lightning effect: The animals die within 48 hours after they start to become dehydrated." Fortunato recommends that as soon as an animal is seen to have the ailment it should be isolated and treated with large doses of anti-diarrhea medicine, water should be treated with disinfectant and the animal should also be denied food for from 25 to 40 hours. In advanced cases, the animal should be injected with 15 liters of normal saline solution a day.

CHILE

COUNTRY FREE OF FOOT-AND-MOUTH DISEASE

Santiago LA TERCERA DE LA HORA in Spanish 1 Oct 76 p 4

[Text] Chile is the only Latin American country which has been declared "a country free of foot-and-mouth disease," inasmuch as yesterday 2 years have passed without an outbreak of the fearful cattle disease.

According to Article 46 of the International Zoo-Sanitary Code of the International Office of Epizootic Diseases (OIE), 2 years must pass without an outbreak after the last case has disappeared in those countries which are known to have undertaken a program of systematic obligatory vaccination and which practice effective sanitary measures.

To celebrate this event, which makes Chile one of the few countries in the world free of foot-and-mouth disease, the Agriculture-Livestock Service (SAG) held a simple ceremony to which it invited the minister of agriculture, Gen Mario MacKay, the assistant secretary, Sergio Romero, and the highest level authorities from institutions and organizations that are interested in the battle against this livestock scourge.

The speakers were the executive director of the SAG, Hector Hevia, and the director of the Livestock Protection Division of the same service, Jorge Benavides. They both mentioned the importance of the accomplishment, the benefits which the status of a foot-and-mouth free country bring, as well as the possibility of pursuing similar control programs for other diseases.

Then, those attending the ceremony held at the Institute of Veterinary Research at 3493 Ecuador Avenue were given a full run-down on the development of the anti-foot-and-mouth disease program and in conclusion were present at a symbolic ceremony held in the institute's laboratory.

The general feeling, both of the representatives from national and international entities, was that the accomplishment must be defended and preserved. The status as a country free of foot-and-mouth disease will bring direct and indirect benefits both to livestock raising and to other livestock activities in Chile which cannot be jeopardized from any point of view.

MEXICO

STRANGE EPIZOOTY THREATENS DAIRY CATTLE IN AGUASCALIENTES

Mexico City EXCELSIOR in Spanish 24 Sep 76 p 26-A

[Text] Aguascalientes, 23 Sep--A serious epizooty that appeared here in Jalisco about 22 days ago is threatening 40,000 dairy cattle in the area. The disease, called acetónemia vesicular, attacks the udders, mouth and hooves of cattle--especially dairy cattle--and has caused an 80 percent drop in milk production.

The Regional Cattlemen's Union (URG) reports that the disease is much like foot-and-mouth disease and, in some cases, has caused the death of the animal.

The disease appeared about 3 weeks ago in the Jalisco towns of Teotaltiche and Encarnacion de Diaz, and has advanced northward, threatening the entire cattle population of Aguascalientes, and especially the dairy industry.

The region immediately affected by this disease has 6,000 dairy cattle, of which about 25 percent are ill with it.

Aguascalientes--including the currently affected area--has about 40,000 producing cows.

To date, neither private nor government veterinarians know what sanitation measures to take to counteract the disease, but it is believed that the transmitting vector is a fly.

NEW ZEALAND

NEW HOOKWORM STRAIN

Auckland THE NEW ZEALAND HERALD in English 27 Sep 76 p 5

[Text] Among Australian exports to New Zealand is a newcomer which is scarcely likely to improve the balance of trade for either side. It is a new strain of hookworm rejoicing in the sinister title of *ancylostoma caninum*.

In a recent report to the Franklin County Council, the senior county hydatids control officer, Mr W. L. Walker, said the hookworm was being carried across the Tasman by greyhounds which made the journey with some frequency. It was proving somewhat difficult to control.

The pest, a considerable health problem in dogs, is being diagnosed at the national hydatids testing station near Dunedin. It can enter through the feet, causing sore feet and a lack of energy.

DEATH OF LAKE FISH

Auckland THE NEW ZEALAND HERALD in English 23 Sep 76 p 3

[Text] The death of over one million small fish, known as bullies, in Lake Rotorua over the past three weeks has probably been caused by a bacterial or fungal disease.

Dr P. M. Hine, of the fisheries research department of the Ministry of Agriculture and Fisheries, Wellington, spent yesterday in Rotorua gathering samples of the dead and dying fish from the lake.

A spokesman from the wildlife division of the Internal Affairs Department who helped to gather the samples, said it appeared the deaths had been caused by bacteria or fungi, although further tests still had to be carried out.

Dr Hine said it was highly unlikely that pollution had caused the deaths of the fish which measure between two and six centimetres long, because no other fish had been affected.

Fungi and bacterial cultures taken from the dead fish are to be examined by Dr Hine in Wellington and injected into living fish to see what effect they have.

Results of these tests are expected tomorrow.

Pollution Deaths

Officers of the wildlife division are also carrying out investigations into the death of 50,000 fish in Lake Maraetai as a result of effluent released into an arm of the lake from the NZ Forest Products mill at Kinleith.

Samples of the dead fish, effluent and lake water are being examined before any further action is taken.

Meeting

The Waikato Valley Authority does not intend reprimanding or prosecuting NZ Forest Products although the company has agreed that effluent from its Kinleith mill has on two occasions this year deteriorated dissolved oxygen level in Lake Maraetai, killing small fish.

But the authority yesterday decided to meet company representatives in the future to hear how the company proposes to avoid a recurrence.

The authority at its meeting yesterday received an apologetic letter from NZ Forest Products in which it explained how the fish deaths occurred.

Oxygen Levels

The company's letter said the fish died due to the sudden deterioration in dissolved oxygen levels in the water of the lower Kopakorahi arm of Lake Maraetai.

Temperature inversion had mixed the effluent throughout the water of the arm at all depths, taking up all the oxygen.

The company said it was taking further measures to avoid fish deaths and installation of two additional aerator units for service on the lake arm was being given the highest priority.

It was hoped the aerators would be working by early November to increase the oxygen supply over critical periods.

REPUBLIC OF CHINA

90 MILLION RATS KILLED

Taipei CHINA POST in English 18 Sep 76 p 12

[Text] The authorities have eliminated some 90 million rats in the past six years and will continue the work to get rid of the remaining 21,020,000 rats, an official said yesterday.

TUNISIA

RABIES VACCINES, FOWL PEST PREVENTION DISCUSSED

Tunis LA PRESSE DE TUNISIE in French 16 Sep 76 p 2

[Text] The proceedings of the third international symposium of the World Association of Veterinarians, Microbiologists and Immunologists took place in Tunis 30 August-2 September 1976. Grouping eminent experts from 23 different countries, this symposium covered two themes:

--The new vaccines used against rabies, and their testing.

--Fowl pest prevention.

With regard to rabies, the studies focused upon improvement of both known inoculation techniques and new vaccines, and standardization at the international level of testing techniques.

Research workers at the Pasteur Institute in Tunis have presented a comparative study of three rabies vaccines of different origins.

With regard to fowl diseases, new achievements relative to several diseases were presented, in particular:

(a) Newcastle Disease or fowl pseudopest: Studies dealt with selection of new vaccine strains, vaccination of chicks born of immunized hens, and vaccination by aerosol.

(b) Marek's Disease: The process of natural or acquired resistance to this disease has been studied for a long time and methods of diagnosis and of vaccine preparation were described.

(c) The leucoces: New diagnostic laboratory techniques were presented which permit detection of leucoces cases and eradication of these diseases by elimination of the exciter [sic] virus breeders.

(d) Other fowl diseases: The studies dealt primarily with improvement of diagnostic laboratory techniques and preparation of adequate vaccines.

For their part, research workers from the Institute of Veterinary Research in Tunis have presented a report on the fowl diseases observed in the country and the methods employed in fighting them.

VENEZUELA

FOOT-AND-MOUTH DISEASE CONTROL

Caracas ULTIMAS NOTICIAS in Spanish 16 Sep 76 p 86

[Text] The General Office for Development of Cattle Raising of the Ministry of Agriculture and Animal Husbandry [MAC] set up a pilot program for the control of foot-and-mouth disease in the northeastern and Guayana regions. Adequate personnel and equipment have already been made available.

The announcement was made to the news media by DVM Francisco Diamond, general director of the MAC Animal Husbandry Development program. He also said that the vaccine which is already being administered is the inactivated form. Part of it is produced at the MAC Veterinary Institute, and the other part is imported from Colombia where it is produced by Vecol Laboratories.

The MAC technician went on to say that the MAC laboratories had localized only two foci, which had been controlled. They were in the cities of Uracoa and Tabasca of the Sotillo District of Monagas State.

A sufficient quantity of inactivated vaccine was sent to control the two foci, so that the disease could be eradicated.

It should also be noted that implementation of the massive vaccination program in the above district has been beset by a number of difficulties because of the floods. For this reason, the technicians of the north-eastern region had some problems in administering the vaccine. However, these problems have now been surmounted.

In the near future, another shipment of inactivated vaccine, containing no fewer than 100,000 doses, will be sent in order that vaccinations can be given in the entire area stricken by the disease.

CATTLE BLOOD CANCER DETECTED IN LARA

Caracas EL NACIONAL in Spanish 1 Oct 76 p D-17

[Text] Barquisimeto, 30--Researchers of the School of Veterinarian Science of UCO [Central Western University] in this city discovered that Venezuelan cattle have bovine leukemia, cancer of the blood. This is a great danger to the people and to the cattle raising industry of the nation.

Dr Jorge Hernandez Rovatti, director of the School of Veterinarian Science of UCO, and Dr Gustavo Bacho, researcher in pathological anatomy, reported the aforementioned information during a press conference. They said that there is no cure for the disease which is transmissible to human beings and which develops over a long period of time.

This disease has only recently been discovered in this country. The latest case appeared last week about 90 kilometers from Barquisimeto. This does not mean that the disease is more common in our region than in the rest of Venezuela. The university researchers said UCO prepared complete and unequivocal studies on this disease. Their findings have been checked and confirmed in the United States at the University of Pennsylvania Virus Center.

The UCO spokesmen added that some cattle raisers owning herds infected with leukemia had delivered their animals to MAC [Ministry of Agriculture and Animal Husbandry]. What is more serious and dangerous is that other cattle raisers have sold their infected cattle, contributing to the spread of the disease.

If controls to prevent the spread of this disease are not put into effect at once, harm of unforeseeable extent will be caused to the health of the Venezuelan people and the cattle raising industry in Venezuela will surely be wiped out in the long run. Dr Hernandez Rovatti and Dr Bacho said that President of the Republic Carlos Andres Perez must urgently issue a decree providing preventive measures required for protection against bovine leukemia.

They added that the virus producing leukemia is not destroyed by pasteurization of milk. Thus the government, through its competent channels, must also take sanitary measures to prevent the spread of bovine leukemia, blood cancer, throughout the stock farms of the nation.

III. PLANT DISEASES AND INSECT PESTS

BRAZIL

ATTACK BY AFRICAN BEES

Rio de Janeiro O GLOBO in Portuguese 6 Aug 76 p 7

[Text] Campos, 6 Aug--African bees attacked a group of farm hands in Rio da Prata, district of Dores da Macabu, in Campos, killing one of them, Joao Bernardina de Souza, and injuring four others, one of whom, Dionisio Alexandrino Barcelos (son-in-law of Joao), is in serious condition in the Caneplanters' Hospital. Joao Bernardino de Souza, known as Aranha, was harvesting sweet potatoes in his field when the bees attacked him. To save him, his son-in-law went to his aid with a blanket, throwing both of them into a swamp, and was also stung. Another farm hand, Acinelio Barcelos, upon hearing the screams of the two men, tried to help them, and was also attacked. In the house of Joao Bernardino, where the insects entered, his comrade Dinha and granddaughter Maria das Gracas (daughter of Dionisio), were also stung.

RESULTS OF STUDY ON AFRICAN BEES RELEASED

Rio de Janeiro O GLOBO in Portuguese 27 Sep 76 p 6

[Text] African bees existing in the northeast are more aggressive than those in the south of the country, proving that environmental conditions exert an influence on their behavior. This is the conclusion drawn by the genetics department of the University of Sao Paulo's medical school in Ribeirao Preto, which has been studying the subject for a year. The department recently obtained a mutant bee "with an open stinger," which does not sting and, therefore, does not inject any venom.

The northeastern bees normally become four times more aggressive than those from the south. However, when descendants of the northeastern

queens are transported 2,800 kilometers to Ribeirao Preto and leave this region for Recife, there is a change in behavior: those from the south are more aggressive whereas those from the northeast become less aggressive. This is the first conclusion from the department's research.

The study, begun a year ago with a joint appropriation from the U.S. Government and the National Research Council, has until May 1977 to find out to what point and in what manner moisture in the air, rain-gauged precipitation, temperature and vegetation influence the aggressiveness of the so-called African bees, a species responsible for two-thirds of the Brazilian honey output.

Professor Lionel Segui Goncalves, in charge of the bee genetics sector, explains that, from the genetics standpoint, the department has already discovered the hereditary type of aggressiveness (through work done by Professor Antonio Stort): "There are certain pairs of genes responsible for the aggressive behavior of the Apis bee species."

Experiments

In 1975, the study began with the installation of an experimental center in Recife, attached to the Pernambuco Rural University, and a laboratory at the agricultural cooperative in that state.

Under study is the aggressive behavior of 40 bee colonies bred in Ribeirao Preto and taken to Recife and others bred in the northeast and taken to Ribeirao Preto. Each of the two batches is submitted to tests of aggressiveness and after each test, the queens of each batch are transported from one region to the other.

There is then a 70-day waiting period to allow for the egg laying and the birth of new worker bees, the transferred queens' offspring.

Therefore, each group of colonies from one of these regions has its own genes pool sent to a totally different region, from a climatic standpoint. In this way, we are testing the same genotype under distinct environmental conditions.

At present, the study is undergoing its fourth test of aggressiveness. The following research step, which will continue until May 1977, is to accumulate data relative to how and to what point environmental conditions influence the insect's behavior.

Worldwide Interest

Should the genetics department's telephone ring and the caller at the other end be a representative of some large communication medium in the United States trying to set up an interview, no one would be surprised. Although this has not yet become routine, it is no longer a rare

occurrence. In 1975, an NBC team--a broadcasting company in the United States--came to Ribeirao Preto to undertake a special program on African bees. The subject gave rise to such lively controversy and protests, even in the United States (because of the sensational manner with which the subject was handled), that in April of this year, the NATIONAL GEOGRAPHIC MAGAZINE sent a reporter here with a photographer to clarify the matter. The department's importance is not based solely on its being the pioneer center in the introduction of the African bee into Brazil or for being the only Brazilian center dedicated to the genetics study of bees. Its organizer was Professor Warwick Estevan Kerr, present director of the National Institute for Research in Amazonas.

In February of this year, one more result of the long-continued research program was announced: cobalt irradiation on the so-called Africanized bee (result of the crossing of the African with the Italian bee, the German with the Caucasian) brought about a genetic mutation, making possible the appearance of a bee with an open stinger. This new mutation results in the lancets becoming separated from the stiletto and therefore the bee can neither sting nor inject any venom--explains the author of the study, Ademilson Espencer Egea Soares, 30 years of age, a Fapesp scholar who is studying for a doctorate in genetics in the department.

The normal stinger, he explained, has two lancets (right and left) embedded in the central stiletto, forming practically one functional piece. The lancets operate attached to the stiletto in a track system, and succeed in injecting their venom by penetrating the skin, thanks to the movements synchronized with the barbs in the lancets, which become embedded in the skin's surface.

Following the bee mutation, subsequent crossings were made, resulting in 1,635 worker bees and 84 queens. This made it clear that the anomaly was genetically transferred.

When the bees with the separated lancets were placed on a bare arm, nothing happened. However, bees with only one free lancet still succeeded in stinging and injecting a little venom, although this happens with greater difficulty in comparison with what happens when the sting comes from a bee with a normal stinger.

Ademilson Soares is also pursuing studies to find out what happens with the aggressiveness of these mutant bees, which produce honey like the others. And he asks: "What is the colony's defense mechanism? How will the bees with open stingers behave as to disposition?"

Aggressiveness

Professor Lionel Segui Goncalves, who is cautious in his conclusions, believes that the campaign against the aggressiveness of bees of African origin is somewhat exaggerated. He admits, however, that the laboratory

is doing everything possible to lessen that aggressiveness so as to facilitate dealing more effectively with those bees which fly more rapidly than the others, work longer and produce more honey. He, therefore, follows with interest the labor of the scholar, Regina Nogueira: for 2 years she has been engaged in a project which proposes to reduce the size of the gland producing the bees' venom by mating among different types.

Up to now, after four generations, a 15 percent reduction in gland size has been achieved.

The genetics department of the Ribeirao Preto medical school is devoted to pure science, including research in cytology, embryology, evolution, bee behavior and genetics, in addition to animal genetics (which also includes cattle), microorganisms, humanity, medical genetics and radiogenetics.

LAOS

PEST CONTROL UNIT

Vientiane KHAOSAN PATHET LAO in Lao 4 Sep 76 p A 3

[Text] To insure a good harvest for the people, the Ministry of Agriculture, Forestry, and Irrigation sent a pest control unit to Taseng [canton] Pak Cheng, Meuang [district] Thoulakhom, Vientiane Province beginning 18 August 1976 to work with the executive committee of the people's agricultural cooperative in Pak Cheng and with the administrative authority in this area. The unit began eradicating plant-destroying pests: grasshoppers, meng kheng [insect; some types of arthropods], caterpillars and weevils.

The unit has now finished spraying insecticide on more than 10 hectares of fields in 10 villages and is continuing to spray in various areas.

The work of the pest control unit has greatly satisfied the people and raised their spirit of production. In addition, the unit has also given the people confidence in the leadership of the party and government which are always concerned about the lives of the people.

MAURITIUS

INSECTICIDE SPRAYING UNITS DISTRIBUTED

Port Louis LE MILITANT in French 22 Sep 76 pp 1, 4

[Text] Rajen Awotar, director of the National Federation of Young Farmers Clubs, on 21 September, discussed achievements for the period 1 August 1975-31 July 1976. He said that a plan had been launched in 1974-1975 for the distribution of insecticide spraying units. Each region of 25-30 clubs received one spraying unit. A few months later the federation requested 9,000 rupees from the Church World Service for these spraying units. Thus, each club will now receive a spraying unit.

NEW ZEALAND

ARMY CATERPILLAR SUCCESSFULLY CONTROLLED

Auckland THE NEW ZEALAND HERALD in English 15 Sep 76 p 14

[Text] Scientists have probably saved the country at least \$10 million a year in pasture and crop losses by successfully controlling the destructive army caterpillar, it was claimed yesterday.

The estimate was made by Dr R. A. Cumber, head of the biological control section at the Mt Albert research centre of the Department of Scientific and Industrial Research [DSIR].

Assessing the effect of efforts to combat the army caterpillar by importing some of its natural enemies found overseas, he said the programme had proved the most dramatically successful of all biological control measures in the past 20 years.

The multimillion dollar savings had been achieved by a scientific effort costing a total of no more than \$30,000, Dr Cumber said.

Until only three years ago the army caterpillar posed a major threat in the North Island both to pastures and crops such as sweet corn. Hordes of the caterpillars occasionally even succeeded in temporarily blocking roads and railway lines by making the surfaces too slippery for wheels to gain traction.

Drastic Inroad

But the army caterpillars have finally been given their marching orders by a tiny Pakistani wasp, *apanteles ruficrus*.

A natural enemy of the army caterpillar, apanteles was introduced by scientists of the DSIR entomology division in 1972. In only one year it made drastic inroads into the army caterpillar population, and all the evidence suggests that this reduction has continued.

Investigations by the DSIR suggest that the army caterpillar population has been reduced by 80 or 90 per cent compared with the level before 1972.

Apanteles destroys the caterpillar by injecting its eggs into it. The eggs hatch into larvae which kill the caterpillar as they emerge.

Dr Cumber regards the rout of the army caterpillars as one of the most outstanding successes the biological control scientists have achieved.

"We were dealing with an insect pest from overseas that had been in an explosive phase of expansion ever since it reached New Zealand," he said.

Although minor local outbreaks of army caterpillars might still occur from time to time, he predicted that there would never be a resurgence of the epidemics that had been commonplace in past years.

The DSIR scientists have also had other successes. White butterfly numbers have been reduced by up to 90 per cent by biological control measures, and in 1952 the scientists found an answer to the green shield beetle by importing a tiny parasite of the beetle from Australia.

One major pest that has so far resisted biological control measures, however, has been the New Zealand grass grub. Because this is a native species, the scientists have been unable to find any parasitic insect overseas which is effective in reducing grass grub populations.

PERU

RENEWED REPORTING OF AFRICAN BEE PRESENCE

Lima LA PRENSA in Spanish 12 Sep 76 p 26

[Text] Huancayo, 11 Sep--Aggressive bees attacked a farmer, causing serious wounds, and brought about the death of five chickens, in a rural part of San Ramon. In order to save his life, the victim had to throw himself into a creek.

(A few days ago, in Cuzco and Tarapoto aggressive bees also attacked peasants and cattle. One horse died as a result of the terrible stings.)

In San Ramon, the incident occurred at the Buena Vista rural property. There, Engineer Teodomiro Alanya Ballon and a farmer, whose name is not known, were about to remove honey from some hives, when they were suddenly attacked by the aggressive bees.

The farmer, who was wearing no special clothing, was overcome by the bees. He had to throw himself into a creek in order to escape from the insects. He thus saved his life. Alanya Ballon escaped, because he was wearing special clothing.

After being pulled out of the creek, the farmer was treated with special medication and is now recovering from the stings.

USSR

MOTHS-FIELD PESTS

Alma-Ata SOVKI-VREDITELI POLEY in Russian 1975 pp 2, 184

[Article by Georg Khristianovich Shek, doctor of agricultural sciences]

[Excerpts] [Annotation] Moths are one of the most harmful of agricultural pests. They are most dangerous in years of population explosions. For example, in 1957 the rustic shoulder-knot moth multiplied over an area of 7 million hectares of wheat in Northern Kazakhstan and the caterpillars destroyed no less than 150 million poods [16.38 kg] of grain that year. These losses, unprecedented in the history of agriculture, occurred because the plant protection service was very undermanned and could not predict precisely the multiplication of the moth and effective measures for eliminating this dangerous pest could not be taken.

There are 442 species of moths in Kazakhstan. The author gives all necessary information concerning them: species composition, distribution, biology, ecology, dynamics, numbers, methods of prediction, multiplication and specialization and agricultural technology, biological and chemical measures of control of harmful species.

The book is a good aid for entomologists, plant protection agronomists, for scientists, agriculture college students and agricultural specialists.

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VENEZUELA

PRESENCE OF AFRICAN BEES

Caracas ULTIMAS NOTICIAS in Spanish 5 Sep 76 p 16

[Excerpt] Thousands of specimens of the "Afro-Brazilian" or "killer" bee have been detected in Bolivar State in an area extending between Mount Roraima--an area claimed by Guyana Esequiba--and the town of Icabaru. American scientists, however, say that this should not cause the Guyanese people any concern since this bee can be controlled and domesticated.

American entomologists from the University of Utah, Orley Taylor and David Roubik, who confirmed the insect's presence after noticing them on farms and in numerous villages in the area, together with Dr Jorge Osorio, from the MAC's [Ministry of Agriculture and Animal Husbandry] Plant Health Division, gave a kind of press conference during which they explained to newsmen about this insect's distinctive features.

They pointed out that the "killer bee's" aggressiveness has been lessened by crossing it with purebred Italian bees. However, they considered it necessary to conduct a public information campaign because this bee will have to be dealt with commercially as it makes its way through national territory.

"The beehives, for example, should be kept away from populated localities, as this insect will still be a little more aggressive than our common bee."

They mentioned that, a few days previously, bees which resembled the "killers" had been collected in the towns of Santa Elena de Uairen and in Pauji, south of Rio Caroni in Bolivar State, and sent to Professor Taylor, at the University of Utah, who identified them as the African bee.

Caracas EL UNIVERSAL in Spanish 14 Sep 76 p 28/4

[Text] Ciudad Bolivar--The general health commissioner of Bolivar State sent a letter to Dr Padilla Fernandez, director general of the Ministry of Health, informing him that the scientific commission that had recently

been in Santa Elena de Uairen, on the Brazilian border, confirmed the presence of the African, or "killer" bee in that region.

Dr Walfredo Mendez Gil, in charge of the General Health Commission, pointed out in the communique to the director general of that entity that the commission that had been in Santa Elena de Uairen recommended that programs should be set up to teach the inhabitants of the area how to identify the bees and learn how to protect themselves from them.

It would fall to the ministry's Health Education Division to carry out a program of this kind, possibly in collaboration with the Ministry of Agriculture and Animal Husbandry.

As is known, recently several MAC [Ministry of Agriculture and Animal Husbandry] officials, together with scientists from the United States, were in that border region doing research on the presence of the African bee which is coming from Brazil into Venezuela. Several swarms escaped from some Brazilian laboratories and are making their way toward Venezuela at the rate of 250 kilometers per year.

The United States is very concerned about the insect and is endeavoring to ward off its invasion of the Panama Canal Zone.

Caracas EL NACIONAL in Spanish 1 Oct 76 p D-5

[Text] Ciudad Bolivar, 30 Sep--The African bees advanced to Tumeremo, Guasipati and El Dorado. The MAC [Ministry of Agriculture and Animal Husbandry] is implementing means for combating them in homes, gardens and parks.

MAC detected in Tumeremo, Guasipati and El Dorado swarms of African bees which arrived in those municipalities very much sooner than was foreseen.

Today, a MAC spokesman said that the migratory movement to the north of the so-called "killer bee" is being tracked with the help of University of Kansas specialists.

The specialists pointed out that long before the "killer bees" arrived in the aforesaid municipalities, their presence had been detected in apiaries at Icabaru and Santa Elena de Uairen, on the Brazilian frontier.

However, the specialists believe that the swarms of these bees will not reach the interior of the country for another 3 years.

In view of the nature of the problem, MAC, for the present, is preparing the strategy to be followed for the destruction of the swarms of bees located in urban areas, parks, gardens, public squares and homes because

the bees endanger the inhabitants. Thus, when necessary, the people are instructed to call the civilian authorities, the national guard, the fire department and MAC officials.

Caracas EL NACIONAL in Spanish 1 Oct 76 p A-1

[Text] A group of experts headed by two representatives of the Office of the President of the Republic went to Santa Elena de Uairen to make on location a study of means for combating the invasion by African bees which have unquestionably arrived in our national territory.

Other members of the group are representatives of the Ministries of Defense, Agriculture and Animal Husbandry, Health and Welfare, Public Works and members of the Petare Fire Department who represent all fire departments in the country.

The members of the expedition have special equipment to protect them from the African bees which attack in large swarms.

VIETNAM

DROUGHT, INSECTS AFFECT 10TH-MONTH RICE CROP

Hanoi Domestic Service in Vietnamese 2300 GMT 28 Sep 76 BK

[Text] Over the past 5 months the volume of rainfall in the northern provinces has dropped 20 to 30 percent compared with the average volume of several previous years. The water level of large rivers such as the Red River and Thai Binh River has rapidly fallen. Nearly all reservoirs--large and small alike--in the north have run low. Last week rain was reported in some areas, but the volume was small and uneven. In several localities, fairly large areas of 10th-month rice have been affected by drought or harmful insects and diseases.

According to the General Statistics Department, as of 20 September the drought-stricken 10th-month rice areas in Thanh Hoa, Ha Bac, Ha Nam Ninh, Thai Binh, Hai Hung and Quang Ninh provinces and Hanoi increased 30,000 hectares over the number recorded on 15 September. In Thanh Hoa, Ha Nam Ninh and Thai Binh provinces the drought-stricken 10th-month rice areas account for 10 to 26 percent of the transplanted acreage. The areas affected by harmful insects and diseases--mostly stem borer and leaf roller and silver-leaf disease--have also increased. In Ha Bac, Thanh Hoa, Ha Nam Ninh, Thai Binh and Hai Hung provinces, the areas hit by harmful insects and diseases account for 7.5 to 27.6 percent of the total acreage.

Along with growing the winter crop, several localities have strengthened their leadership of cooperatives to prevent possible complacency caused by the good development of rice, intensified their care for ricefields and actively prevented and controlled drought and harmful insects and diseases in order to protect the 10th-month rice until harvest time.

The Ministry of Agriculture has reminded all localities to guide the agricultural cooperatives in rational use of their labor forces in the coming days in order to effectively prevent and control harmful insects and diseases to protect the main 10th-month rice crop and at the same time to harvest the early rice crop quickly and neatly and to prepare seeds, fertilizer and draft power for sowing and growing the winter crops on the entire area in a technically correct manner and on schedule.

The agricultural services in the provinces must closely coordinate their work with the irrigation services in order to intensify their leadership of the management and use of water sources; recheck the water level of the reservoirs and the canal and ditch systems; formulate rational plans for the distribution of water; insure a sufficient water supply for the 10th-month rice which is budding and growing ears; and reserve enough water for the cultivation of the winter crop and for protecting the 1976-1977 5th-month-spring crop from drought. The localities must also inspect ricefields, zone affected areas to stamp out harmful insects and diseases immediately and to prevent them from spreading to other areas, and intensify their care for and fertilization of the areas recently saved from drought and harmful insects and diseases.

CSO: 5400

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